The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 823.—Vol. XXI.] LONDON, SATURDAY, MAY 31, 1851. [Price 6d.

DEAN FOREST.

VALUABLE COAL and IRON-WORKS, with suitable MACHINERY and APPURTENANCES, affording an opportunity seldom offered for acquiring a lucrative concern.

MESSRS. ADAM MURRAY and SON will SELL BY AUCTION, at Garraway's, on Monday, the 2d of June next (unless an acceptable offer is previously made by private contract one week at least before that date), the 1

BROMLEY HILL COAL AND IRON-WORKS,

comprising the BROMLEY HILL and MIDSUMMER LEVELS, containing 200 acres, and the IRON MINE adjoining, containing 400 acres, with a STEAM-ENGINE, of 45-horse power, and a BLAST FURNACE, capable of smelting 80 to 90 tons of pig-iron per week—situate in the village of BREAM, four miles from Coleford.

For particulars apply to Messrs. Chaplin, Richards, and Stubbin, solicitors, Birmingham; of Arthur Ryland, Esq., Birmingham; Messrs. Abbott & Lucas, solicitors, Bristol; at the place of sale; and of Messrs. Adam Murray and Son, surveyors and land agents, No. 35, Craven-street, London.

TO ENGINEERS, RAILWAY CARRIAGE BUILDERS, SMITHS, and OTHERS.

MESSRS. FULLER and HORSEY will SELL, by PUBLIC AUCTION, on Monday, 2d June, and following days, at Eleven, at the Fairfield Works, Bow, in lots without reserve, the machinery of the FAIRFIELD WORKS, at BOW, fitted but a few years under the superintendence of Messrs. Adams and Co., at a cost of several thousand pounds, principally by Whitworth, Nasmyth, Smith, Beacock, and Tannett, Oram, Sharpe, Brothers, and Fox, Henderson, and Co., including two high-pressure steam-engines, of 12-horse power, two tubular steam-boilers, 500 feet turned shafting, steam tilt hammer, two cutting and punching machines, 12 engine turning lathes, for turning, boring, screw cutting and surfacing, two self-acting planing machines, 12 drilling machines, five-feet turning lathes, 100 circular saws, keyway and shaping machines, vertical saw frame, a five-saw right angle tenant cutting machine, bevil sawing, grooving, and rebating machine, rising and falling sawing machine, morticing and drilling machine, 21 iron and brick forges, powerful plate bending, tire drilling and rolling machine, iron water tank, several tons iron tram rails, powerful shear legs, 100 wrought-iron vices, work benches, office fittings, and numerous other effects. 2

The machinery may be seen in motion on Friday and Saturday previous to the sale. Catalogues may be had 14 days prior to the sale, at 6d. each (or sent post free on receipt of 10 postage stamps), of Messrs. Fuller and Horsey, 13, Billiter-street, City.

FAIRFIELD WORKS, BOW.

MESSRS. FULLER and HORSEY will SELL, by PUBLIC AUCTION, at the Auction Mart, on Friday, 6th of June, at Twelve o'clock, the FAIRFIELD WORKS and BUILDING GROUND, at BOW. The Premises are situate immediately adjoining the junction of the Eastern Counties Railway with the Blackwall Line, occupying a site of nearly five acres; the buildings have been erected but a few years since in the most substantial manner. The two principal factories measure each 293 feet in length, a range of brick-built workshops 100 feet in length, counting-houses, a spacious yard, having a communication on to the main line of the Eastern Counties Railway, a building frontage of 363 feet, near the old Ford-road. The supply of water is plentiful from a well, 105 feet deep. The access is easy, and communication with the City every quarter of an hour by means of the Blackwall Railway. The premises are held on lease for a term of 91¼ years from Christmas-Day last, subject to a ground rent of £60 per annum, with the option of purchasing the freehold at such a sum as would, if invested in consolidated or reduced stock, produce a yearly dividend of £58. The works may be viewed by tickets. 3

Printed particulars, with plans, may be had of Messrs. Crowder and Maynard, solicitors, Coleman-street; at the Mart; and, with cards to view, of Messrs. Fuller & Horsey, Billiter-street, City.

TO BE SOLD, BY AUCTION, at the Grower and Welltown Slate Quarries, near Boscastle, Cornwall, on Saturday next, the 7th June, at One o'clock precisely, the sale to commence at Grower,

A QUANTITY OF QUARRY MATERIALS, 4

Comprising whims, a quantity of chains, of various sizes, tram irons, tram saddles, a quantity of useful timber, 2 planes, for planing stones, blacksmiths' tools, saws, tram waggons, and other articles.

For particulars apply to Capt. Honey, at Delabole; or at Mr. Avery's office, Boscastle.

Boscastle, May 26, 1851.

GLAMORGANSHIRE.

VALUABLE FREEHOLD ESTATE AND MINERAL PROPERTY.—The MISKIN ESTATE, consisting of the MISKIN MANSION-HOUSE and DEMESNE LANDS, with several FARMS, containing about 4500 acres—4000 of which being within the Mineral Basin, will be OFFERED FOR SALE (in lots), BY AUCTION, at CARDIFF, in AUGUST next. 5

Particulars will again be announced, and further information may be obtained of Messrs. Baker and Co., 52, Lincoln's Inn-fields, London; or of Mr. E. P. Richards, Cardiff, where plans of the estate and sections of the mineral seams in the district may be seen.

TO CAPITALISTS.

TO BE SOLD, A SLATE AND SLAB QUARRY, situate within 6d. per ton cost water carriage from an excellent port in CARNARVONSHIRE, extensively opened and ready for immediate productive operation.

The LEASE is for TWENTY-ONE YEARS full—Royalty 1-12th. 6

The WIDTH of the VEIN is about SIXTY YARDS, and its dip, inclination, and stratification are similar to the same features in the great Festiniog Quarries.

The METAL is of the very FIRST QUALITY, wholly free from sulphur or other blemish, kind in rending and working, true in cleavage, and, from its purity, density, and tenacity, is admitted to be superior to the produce of most quarries for the various purposes for which slate slab is polished and enamelled. The colour is a beautiful blue, tinged with purple.

A waterfall descends within 100 yards of the quarry, which supplies an inexhaustible motive-power for the working of machinery.

There are erected on the premises an OFFICE, fitted-up complete; an extensive well-built ENGINE-HOUSE, capable of containing double the present power of machinery, which now comprises a capital water-wheel, 22 feet in diameter, two large circular sawing machines, one large planing machine, water launders, gearing, and everything in the most convenient and complete order, together with about 2000 feet of bar-iron for tramroads, waggons, sledges, and every requisite necessary in the working of a quarry.

A quantity of slabs has been quarried and manufactured, and a price of 4s. per square yard has been obtained for the produce at the quarry.

Satisfactory reasons will be shown for the disposal of the property, and any gentleman or company wanting an investment of this description will find this an opportunity rarely presented, as it is confidently asserted that the merits of this quarry, and its local advantages for facile and economical working, are certainly unrivalled in the Principality,

WILL BE SOLD A BARGAIN.

Apply to Mr. James Bywater, mining agent, 79, Christian-street, Liverpool.

TO BE SOLD, the WHOLE, or PART, of the TAKEE'S INTEREST in the GRANT, for THIRTY-ONE YEARS, from the date of lease (which can be demanded at any time), of a considerable TRACT OF LAND, abundant in MINERAL VEINS, situate at TALSARORA, in MERIONETHSHIRE, on the opposite coast to Port Madoc, and but one mile distant from a shipping place. 7

This district, in which is situate the Crafnant Mine, famous for the richness of its ores, is admitted by all miners to be in the highest degree metalliferous, and that the strata of ground in which the many strong, regular, and well-defined lodes running through this sett are located, are highly congenial for copper.

A shaft has been sunk upon one lode to the depth of about 6 fathoms, from which a quantity of mundic has been raised, as also about 2 tons copper ore, producing 13 p. cent.

Feeling perfectly convinced that a rich deposit of ore will be found at the same shallow depth as at the Crafnant Mine, the advertiser would prefer selling a part of his interest to selling the whole, so that the means, not at present at his command, may be raised to further prosecute the undertaking.

Apply to James Bywater, mining agent, 79, Christian-street, Liverpool.

NORTH WALES.—SLATE AND SLAB QUARRY.

TO BE DISPOSED OF, for a term of years, the valuable SLATE and SLAB QUARRY, called ESGAIR QUARRY, situated in the parish of PENNAL, in the county of MERIONETH. This Quarry was opened at considerable expense by the late proprietor, and is now to be disposed of, in consequence of his death. 8

The quality of the Stone has been proved to be sound and good, and there is every facility for working, there being ample fall for rubbish, and a plentiful supply of water close at hand.

The Quarry is within about a mile of the Machynlleth and Corris turnpike-road, and distant from the shipping place of Derwenlas about five miles—thus rendering the expense of carriage very inconsiderable.

For further particulars apply to Mr. David Howell, solicitor, Machynlleth.

SAINT NEOT.

VALUABLE SLATE QUARRY TO BE LET.—TO BE LET, BY PRIVATE TREATY, for a term of 14 or 21 years, with immediate possession, all that valuable SLATE QUARRY, situate at WOODLANDS, in the parish of ST. NEOT, in the county of CORNWALL, and late in the occupation of Mr. William Sweet. The quarry is situated in the immediate neighbourhood of a large and increasing mining district, within one mile of the proposed line of railway from Plymouth to Falmouth, and about six miles distant from the towns of Liskeard and Bodmin, and near the turnpike-road uniting those towns. It is approached by excellent roads, and is at all times supplied with a stream of water capable of working powerful machinery. 9

The SLATE is of SUPERIOR QUALITY, and continues to improve, and is likely to be of unlimited extent.

Persons with moderate capital will find this an excellent opportunity of realising a large return of profits.

For viewing the premises, application should be made to Mr. John Lark, at Two Waters Foot, in St. Neot; and for further particulars, and to treat for the same, to Mr. Pedler, solicitor, Liskeard.—Liskeard, May 21, 1851.

MR. JAMES CROFTS, of 4, KING-STREET, CHEAPSIDE, MINING BROKER, renews his OFFERS of SERVICE to CAPITALISTS seeking the means of SECURE INVESTMENTS, which can be made to yield an annual income of 15 to 20 per cent., 10

Mr. Crofts has specially for Sale—

Penzance Consols (50 shares)	East Tamar (15 shares)
Bodmin Wheal Mary (10 shares), paid-up to 10l. per share.	Warleggan (20 shares)
Gonamena (3 shares)	South Tamar (50 shares)
Herodsfoot, 4 (1024ths) shares)	Woodman's Well and Broadridge
Chyprase Consols	Bedford United (15 shares)
Wheal Vincent, 1000 shares, in 3000ths	Okel Tor
Llynmalees, 25 (1000ths) shares	Wheal Tremar (20 shares)
Bronfloyd (60 shares)	Bodmin Consols (5 shares)
Holmbush (8 shares)	Lumherooe (10 shares)

*** Mr. CROFTS is not a dealer in shares, but transacts business only for principals. He proposes shortly to resume his List of Prices-Current in Mines on a more comprehensive scale than heretofore, and he will make the attempt neither to exclude good mines nor include bad ones, being free from both partiality and prejudice.

No. 4, King-street, Cheapside, May 31, 1851.

MR. J. H. MANDEVILLE, 11
MINING AND GENERAL SHARE AGENT,
No. 22, CHANGE-ALLEY, CORNHILL.

MINING SHARE AND METAL BROKER,
OFFICES,—No. 75, OLD BROAD-STREET, CITY.

Mr. THOMAS JORDAN has FOR SALE SHARES in the following DIVIDEND-PAYING and other first-rate MINES:—Alfred Consols, Lelant Consols, Fowey Consols, North Wheal Basset, Stray Park, Bryn-Arian, Wheal Harriet, Cook's Kitchen, Cefn Gwyn, East Wheal Russel, West Goginan, Allt-y-Crib, Dyfngwm, and many other mines in full working, and is now prepared to CONDUCT PURCHASES in all DESCRIPTIONS of MINING PROPERTY. 12

MINING OFFICES, No. 75, OLD BROAD-STREET.—Mr. T. P. THOMAS begs to inform his friends that he has REMOVED from No. 3, George-yard, to the ABOVE ADDRESS, where he hopes to receive a continuation of their favours. 13

FRANCIS PRYOR, MINE AGENT, &c., TOWN-HALL, REDRUTH, CORNWALL.—Begs to inform his Friends and the Public, that his Address when in London, for the future, will be NORTH BASSET MINING OFFICES, 50, THREADNEEDLE-STREET, LONDON.—Dated London, May 22, 1851. 14

FRANCIS'S MINING OFFICES, 7, John-Street, Adelphi.—The great importance of the Mining Interest at the present moment renders it necessary that every means should be adopted to place its operations on the plainest and fairest foundation. 15

The system of representing the Value of Mines, by describing them as Dividend or Non-Dividend Paying, is by no means sufficiently explanatory of their real qualities, for it is clear that mines may come under the first denomination which, nevertheless, differ greatly in value: for instance, some continue to divide large profits for a long time, and some in like manner small profits only, whilst there are others which pay dividends, large or small, as the case may be, but only for a very limited period. The selection of mining ground also requires the greatest care, which, in most instances, can only be applied by or through agents, qualified by long and successful practical experience, combined with local geological knowledge.

Mr. MATTHEW FRANCIS, who has, during the last 20 years, without intermission, been engaged as Manager of Mines abroad, as well as in Cornwall and Wales, many of which are making large profits, takes leave to announce, that he has OPENED these OFFICES, where he may be consulted daily from Eleven till Three.

N.B.—Information supplied, without favour or prejudice, as to the present condition and prospects of all mines without distinction, as far as can be ascertained by the closest attention to the best sources of knowledge.

*** The TRANSFER of MINING PROPERTY (such only as is legitimate) negociated on satisfactory terms.

MR. MATTHEW FRANCIS begs to return his thanks to those Gentlemen who have so kindly supported him, and to state that he leaves London on Wednesday, the 4th of June, to INSPECT MINES in MONTGOMERYSHIRE and CARDIGANSHIRE, and should he be honoured by any commands, they shall receive his best attention up to Tuesday evening. 16

MR. BELL WILLIAMS, MINE BROKER and VIEWER, 16, *CASTLE-STREET, LIVERPOOL.* 17

MR. JOHN DAVIES, MINING SHAREBROKER, *No. 38, TOWER-BUILDINGS, TOWER-GARDEN, LIVERPOOL.* 18

MINING SHARES.—Mr. HENRY VATCHER, EXETER, OFFERS his ADVICE and ASSISTANCE to PARTIES willing to INVEST in the ABOVE SECURITIES. Ten years' residence in Exeter, together with periodical visits to nearly all the Mines in Devon and Cornwall, enables him to become thoroughly acquainted with their respective merits.—Mr. VATCHER has at his command, at all times, practical and experienced agents, so that if any inspection is required, the same can be done without delay. 19

MINING AND RAILWAY OFFICES, No. 3, CASTLE-TERRACE, EXETER.—Mr. JOHN JURY, RAILWAY and MINING SHARE-BROKER, OFFERS his SERVICES to CAPITALISTS in the PURCHASE or SALE of ANY DESCRIPTION OF PROPERTY; and will be happy to point out a selection of such stock as appear the most eligible, from data that can only be arrived at by those who give an undivided attention to the subject.—Every information afforded (either in person or by letter) to capitalists wishing to invest or exchange their securities, and sales or purchases effected upon the best terms, and at one-half the commission usually charged. 20

MINING AND SHARE OFFICES,
No. 7, GEORGE-YARD, LOMBARD-STREET.

Messrs. H. BOXALL & CO., in announcing their REMOVAL from Crosby Hall Chambers to the ABOVE ADDRESS, beg respectfully to solicit a CONTINUANCE of FAVOURS so liberally conferred, and at the same time to call the attention of PARTIES seeking profitable INVESTMENTS to the advantages which MINING PROPERTY offers "when judiciously selected," as compared with any other securities: it may be sufficient to state, they can be bought to pay from 15 to 25 per cent. per annum. This is a favourable time for purchasing dividend-paying stock, while greater caution was never more required than at present in selecting from the many new, "and some worthless," schemes, such as are likely to be eventually remunerative. 21

Our Mr. B. having become a member of the New Mining Exchange, we are in a position to do full justice to our friends, either in the PURCHASE or DISPOSAL of MINING PROPERTY. We publish a daily List of Prices of what may be termed "Active Stock," which we shall be happy to forward to any parties requiring the same.—April 15.

MR. PEET, MINING AGENT, 48, Threadneedle-Street, is now prepared to OFFER his SERVICES in the FORMATION of MINING COMPANIES, on the Cost-book System; and also to CONDUCT the LONDON AGENCY of those already established. His offices are advantageously situated. Satisfactory references can be given.—London, April 5, 1851. 22

MESSRS. TREVARTON and CO., MINING SHARE DEALERS AND BROKERS,—5, *ST. JAMES'S-STREET, PALL-MALL.* 23

MR. CREFT,—MINING SHARE DEALER, *No. 1, ROYAL EXCHANGE BUILDINGS.* 24

MINING OFFICE,—3, GEORGE-YARD, LOMBARD-STREET.—Messrs. TREDINNICK & CO. (formerly of Three Kings-court and 52, Threadneedle-street, London) beg to inform their numerous Friends that they have RESUMED BUSINESS at the ABOVE ADDRESS, of PURCHASING and SELLING SHARES in MINES, RAILWAYS, and other PUBLIC COMPANIES, as well as the NEGOTIATION of every description of MONETARY MATTERS, together with COMMISSION BUSINESS in GENERAL. They have also made arrangements to supersede the bankruptcy of Mr. R. Tredinnick, by paying his debts in full. 25

MINES.—MOLYNEUX & CO., MINING and GENERAL SHARE AGENTS, 34, THREADNEEDLE-STREET, 6, FINSBURY-PLACE SOUTH, and 6, WEST-STREET, FINSBURY-CIRCUS, have SHARES ON SALE in DIVIDEND-PAYING and OTHER MINES, which will ensure to CAPITALISTS the safest and most unexceptionable investment.

MOLYNEUX & CO., grateful for past favours, beg to call the attention of their friends to their newly-occupied OFFICES, No. 34, THREADNEEDLE-STREET, where every attention will be paid to the PURCHASE or SALE OF SHARES. 26

*** Office hours from Ten to Four o'clock.

REGISTRY FOR THE SALE AND PURCHASE OF MINING SHARES.

DURRANT & CO., MINING SHAREBROKERS, 58, LOMBARD-STREET, LONDON, Beg to draw the attention of Capitalists to their REGISTRY for the SALE and PURCHASE of SHARES. 27

Shares for Disposal.		
Devon Great Consols	Wheal Mary Ann	South Caradon
Carn Brea	Wellingtons	Great Wheal Sheba
West Caradon	West Buller	Treviskey
Trelawny	Tolgus	Bedford United

N.B.—Statistical information furnished on British and Foreign Mines.—No Charge made for the registration of shares unless business be transacted.

MANAGER WANTED FOR THE COPPER SMELTING WORKS OF THE MINES ROYAL COMPANY IN WALES. 28

A MANAGER is REQUIRED, who is practically acquainted with the older and more recent MODES of SMELTING COPPER ORES, and it is desirable that he should have had either the entire or an important part in the Management of Works of this description.—Applications to be made (by letter only) with references, addressed to the "Secretary Mines Royal Company, Dowgate, London."—May 14, 1851.

AN OFFICER OF RANK, who proposes to retire from the Service, and Settle in one of the Colonies, is desirous of OBTAINING an AGENCY, having reference to MINING OPERATIONS, or the EXPLORATION OF ORES, and OTHER USEFUL MINERALS, in which he is much experienced.—Address "C. X." at the office of the *Mining Journal*, 26, Fleet-street, London. 29

TO CAPITALISTS—COAL MINES IN GERMANY.—A GENTLEMAN, having discovered undoubted COAL-FIELDS, obtainable in perpetuity, in a populous consuming country, near a navigable river, wishes to find a PARTNER, commanding £8000 to £10,000. Undeniable references will be given and required. Any party desirous of providing for sons, or other relatives, would find this an opportunity rarely to be met with.—Address "Z. A.," care of Mr. Barker, No. 12, Birchin-lane, City. 30

TO CAPITALISTS.—TO BE DISPOSED OF, on very advantageous terms, ONE-THIRD, or the HALF, of a very valuable proved SILVER-LEAD MINE, situated in the heart of a celebrated mineral district. Also, TWO or THREE splendid SLATE and FLAG QUARRIES, in North Wales.—Apply for particulars, with real name and address, to "X. Y. Z.," at the office of the *Mining Journal*, 26, Fleet-street, London. 31

TO CAPITALISTS.—TO BE LET, MINING SETTS, of great extent, on most liberal terms, from 5 to 10 miles west of the Llangannog Lead Works. Also, inexhaustible TRACTS of PEAT and BOG LANDS.—For particulars apply to H. Richardson, Esq., Aber Hirnant, Bala, North Wales. 32

TO BE LET, for any term of years the taker may desire, a SLATE QUARRY, at WELLTOWN, within a mile of the Harbour of Boscastle, now in the occupation of Mr. Avery, of Boscastle, the proprietor, to whom applications may be made.—Boscastle, May 19, 1851. 33

COPPER, LEAD, SULPHUR, AND IRON PYRITES.—TO BE LET, at a small Royalty, the MINES of DINNISNAVE, situated in the barony of ROSS, county of GALWAY, IRELAND.—Application to be made to Captain J. B. M. Blake, Doone House, Outerard, Ireland. The HOUSE and DOMAIN he will also LET, together with a large FARM, if required: it is beautifully situated on the banks of Lough Corrib, surrounded by plantations. 34

FOR SALE,—The extensive and valuable IRON-WORKS, MINING, and FARMING PROPERTIES, belonging to the Storfors Company, and situated in the province of WERMLAND, in SWEDEN, covering an area of nearly 100 English square miles.

The MINES belonging to this Company have yielded annually, for the last three years, nearly TWO THOUSAND TONS of PIG-IRON, which has been converted by the most approved process into 1500 tons of steel, of marks enjoying a long-established reputation in the hardware districts of England and the United States of America.

The PROPERTIES embrace SMELTING-FURNACES, FIVE IRON-WORKS, for the conversion of bar-iron, FIVE CORN-MILLS, THREE SAW-MILLS, BRICK-KILNS, &c., with all BUILDINGS and FARMHOUSES, in good condition; and the Forests, which cover about 35,000 acres, give a full supply of charcoal for the works. 35

For further information and particulars apply to Messrs. Dickson Brothers and Co., No. 62, Moorgate-street, City.—London, May 20, 1851.

STEAM PUMPING ENGINE FOR SALE, at TRELAWNY MINE.—TO BE SOLD, BY TENDER, an excellent 22-inch cylinder ENGINE, complete, with a good BOILER.—Tenders for the above Engine and Boiler will be received by Mr. John Philp, the purser, Liskeard, on or before Monday, the 9th June next. Liskeard, May 26, 1851. 36

ON SALE,—HIGH-PRESSURE STEAM-ENGINES, of 6 and 12-horse power. These are the BEST ENGINES for MINING or OTHER PURPOSES requiring great strength in the construction: they are portable, the bed being cast in one piece.—Can be SEEN at JOHN ELLIS and BROTHERS, engineers and millwrights, 15, Backwater-street, Manchester. 37

DIVIDEND MINES.—GEORGE CARNE, 28, THREADNEEDLE-STREET, CITY, has FOR SALE SHARES in YOUNG DIVIDEND MINES, which are paying 20 per cent. per annum. 38

ALLT-Y-CRIB MINE.—The DIVIDENDS on SHARES in this MINE are now PAYABLE at the OFFICES of Mr. FRANCIS, 7, John-street, Adelphi, London, and of EDW. HOLLOWAY, Esq., GOGERDDAN, Aberystwith. 39

THE AUSTRALIAN MINING COMPANY.—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the shareholders of this Company will be HELD at the Company's Offices, No. 1, Adelaide-place, London-bridge, in the city of London, on Saturday, the 14th day of June, 1851, at Twelve o'clock at noon precisely, for the purpose of electing three Directors of the Company, to supply the three existing vacancies in the Board of Directors. 40

May 29, 1851. By order of the board, (Signed) J. A. JOSEPH, Sec.

MEXICAN COMPANY.—The Directors hereby give Notice, that the ADJOURNED ANNUAL GENERAL MEETING of proprietors will be HELD at the Office of the Company on Wednesday, the 18th of June next, at One o'clock precisely, for the purpose of submitting to the proprietors the Annual Report and Accounts of the Company, and on other business. J. M. MAUDE, Secretary. 41

32, Great Winchester-street, May 31, 1851.

MEXICAN AND SOUTH AMERICAN COMPANY. No. 10, New Broad-street Mews, May 26, 1851.—The SIXTEENTH ANNUAL GENERAL MEETING of the proprietors of shares in the MEXICAN AND SOUTH AMERICAN COMPANY will be HELD at the offices of the Anglo-Mexican Mint Company, No. 5, Broad-street-buildings, on Wednesday, the 11th day of June next, at One o'clock precisely. At this meeting a Director will be elected, in the place of H. W. Schneider, Esq., who retires by rotation, but is eligible for re-election, and will be proposed accordingly. GEORGE COPPARD, Secretary. 42

WEST WHEAL JEWEL MINING ASSOCIATION.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders will be HOLDEN at the Office, as under, on Tuesday, the 3d day of June next, at Twelve o'clock precisely, for the purpose of increasing the capital of the Association, in conformity with the provisions in the Deed of Settlement, by the issue of Preference Shares, or otherwise, agreeably to a resolution passed at the Annual Meeting, held on the 12th instant. WM. NICHOLSON, Secretary. 43

57, Old Broad-street, City, May 14, 1851.

WOODMAN'S WELL AND BROADRIDGE CONSOLS COPPER MINES.—Notice is hereby given, that a GENERAL MEETING of the adventurers in the above Mines will be HELD at the Offices on Thursday, the 5th of June, 1851, at Twelve o'clock precisely, for the purpose of signing the Cost-book, adopting resolutions for the commencement of operations on the mines, the choosing of a finance committee, and on other business. JAMES CROFTS, Secretary. 44

Offices,—No. 4, King-street, Cheapside, May 20, 1851.

MINING INVESTMENT.—THOMAS FULLER and CO., 51, THREADNEEDLE-STREET, LONDON, have on hand DEVON CONSOLS NORTH: this mine is situate and adjoining the celebrated Devon Great Consols Copper Mine, having the same stratum of ground, and running parallel with and having the same great cross-courses, and within a short distance of the present rich lode of these productive mines, which, with £1 paid, are now marketable at £310, and paying £48 per annum in dividends.—T. Fuller and Co. have also SHARES in Appledore Silver-Lead, Wheal Caradon Copper, Peter and Mary Tavy Consols, Wheal Franco, &c., and will take pleasure in furnishing all particulars connected therewith. 45

THE MINING EXCHANGE, LONDON.—The popular prejudice against mining property—that it could never be dealt in but at extreme prices, and at uncertain periods—is now removed by the establishment of an open market, into which recognised agents and dealers only are admitted, subject to the government of an authorised committee. The facilities afforded by this market render mining shares, of *bonâ fide* character, as convertible as railway and other first-class public securities. The influx of capital with which the mining market will now be strengthened will necessarily give a new tone and improved value to mining property generally.

The subscribers can, therefore, recommend it to their friends as a very desirable field for investment—most of the legitimate mines not only paying higher dividends than any other public securities, but with prospects more improving, and really attended with less risk, if only proper prudence is exercised in the selection of a judicious adventure.

The principle upon which the subscribers conduct their business is—they pledge themselves not to speculate on their own account, but to confine themselves exclusively to a legitimate commission agency; and their books will always be open to the inspection of their principals, that they may see the precise hour and the parties with whom their business had been transacted. In fact, all that can be required to establish implicit confidence between principal and agent is carried out in the system adopted by the undersigned, and to which they are determined to adhere. 46

The agency of country brokers undertaken upon liberal terms.

The tone of the market and prices current advised daily to regular correspondents.

JAMES S. TRIPP and CO.,

Lombard-street Chambers, No. 39, Clement's-lane, City.—Established 1839.

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

This Day	Medical—33, George-street, Hanover-square	5	P.M.
Monday	Entomological—17, Old Bond-street	8	P.M.
	British Architects—16, Grosvenor-street	8	P.M.
	Chemical—142, Strand	8	P.M.
Tuesday	Linnæan—Soho-square	1	P.M.
Wednesday	Royal Botanic—Inner Circle, Regent's-park	3½	P.M.
Thursday	Zoological—11, Hanover-square	1	P.M.
	Antiquaries—Somerset-house	8	P.M.
Friday	Royal Institution—Albemarle-street	3½	P.M.
	Botanical—20, Bedford-street, Covent-garden	8	P.M.

ON ATMOSPHERIC MAGNETISM.

Professor Faraday, in a lecture on this subject at the Royal Institution (Prince Albert in the chair), said that on a former evening (see *Mining Journal*, February 8th) it was shown that oxygen gas was magnetic, being attracted towards the poles of a magnet; and that, like other magnetic bodies, it lost and gained in power as its temperature was raised and lowered, and that the change occurred within the range of natural temperatures. These properties it carries into the atmosphere; and the object this evening was to show how far they might be applied to explain certain of the observed variations of the terrestrial magnetic force. If a source of magnetic power be considered (as a magnet) it presents us with a system having polarity; and if the parts which are called the poles be taken as representing the most concentrated condition of the polarity, then the contrary polarities, manifest externally in relation to the magnet, are perfectly definite, being exactly equal to each other. If the magnet be irregular in the disposition of its force, still the same definite character of the sum of the contrary polarities holds good. External to the magnet those concentrations which are named poles may be considered as connected by what are called magnetic curves, or lines of magnetic force, existing in the space around. These phrases have a high meaning, and represent the ideality of magnetism. They imply not merely the directions of force, which are made manifest when a little magnet, or a crystal, or other subject of magnetic action is placed amongst them, but those lines of power which connect and sustain the polarities, and exist as much when there is no magnetic needle or crystal there as when there is, having an independent existence analogous to (though very different in nature from) a ray of light or heat, which, though it be present in a given space, and even occupies time in its transmission, is absolutely insensible to us by any means whilst it remains a ray, and is only made known through its effects when it ceases to exist. The form of a line of magnetic force may vary exceedingly from a straight line to every degree of curvature, and may even have double and complicated curvatures impressed upon it. Its direction is determined by its polarity, the two changing together. Its powers are such, that a magnetic needle placed in it finds its place of rest parallel to it; a crystal of calcareous spar turns until its optic axis is transverse to it; and a wire which is unaffected when moved in or along it, has an electric current evolved the instant that is passes across it: by these and by other means the presence of the magnetic line of force and its direction are rendered manifest. The earth is a great magnet: its power, according to Gauss, being equal to that which would be conferred if every cubic yard of it contained six 1 lb. magnets; the sum of the force, therefore, is equal to 8,464,000,000,000,000,000,000 such magnets. The disposition of this magnetic force is not regular, nor are there any points on the surface which can be properly called poles: still the regions of polarity are in high north and south latitudes; and these are connected by lines of magnetic force (being the lines of direction) which, generally speaking, rise out of the earth in one (magnetic) hemisphere, and passing in varied directions over the equatorial regions into the other hemisphere, there enter into the earth to complete the known circuit of power. A free needle shows the presence and direction of these lines. In London they issue from the earth at an angle of about 69° with the horizon (being the dip or inclination); and the plane in which they rise forms an angle of 23° west nearly with true north, giving what is called west declination. Where the dip is small, as at the magnetic equator, these lines scarcely rise out of the earth, and pass but a little way above the surface; but where it is large, as in northern or southern latitudes, they rise up at a greater angle, and pass into the distant realms of space, from whence they return again to the earth in the opposite magnetic hemisphere; thus investing the globe with a system of forces like that about an ordinary magnet, which wherever it passes through the atmosphere is subject to the changing action of its magnetic oxygen. There is every reason to believe that these lines are held in the earth, out of which they arise and by which they are produced, just as the lines which originate in a magnet are held by it, though not in the same degree; and that any disturbance from above affecting them will cause a greater change in their place and direction in the atmosphere and space above than in the earth beneath. The system of lines of magnetic force around a magnet or the earth is related by a lateral tension of the whole, analogous in some degree to the lateral tension of lines of static electrical force; both the one and the other being easily made manifest by experiment. The disturbance of the tension in one part is accompanied instantly by a disturbance of the tension in every other part; for as the sum of the external powers of a system, unaltered at its origin, is definite and cannot be changed, so any alteration either of intensity or direction amongst the lines of force at one place, must be accompanied by a corresponding change at every other. So, if a mass of soft iron on the east side of a magnet causes a concentration of the lines of force from the magnet on that side, a corresponding expansion or opening out of the lines on the west side must be and is at the same time produced; or if the sun, on rising in the east, renders all the oxygen of the air on that side of the globe less magnetic and less able, therefore, to favour the transition of the lines of terrestrial force there, a greater number of them will be determined through the western region; and even though the lines of force may be doubted by some as having a separate existence such as that above assumed, still no error as to the effects on magnetic needles would in that case be introduced, for they, by experiment, would be and are the same. The power of a magnetic body, as iron or oxygen, to favour the transmission of lines of force through it more than other bodies not magnetic, may be expressed by the term conduction. Different bodies, as iron, nickel, oxygen, conduct in various degrees, and not only that, but the same body, as iron or oxygen, conducts in different degrees at different temperatures. When space traversed by uniform lines of magnetic force is occupied by a uniform body, as air, the disposition of the lines is not altered; but if a better conducting substance than air is introduced, so as to occupy part of the space, the lines are concentrated in it, and drawn from other parts; or if a worse conducting substance is introduced, the lines are opened out. In both cases the lines of force are inflected, and a small magnetic needle standing in them at the inflected part would have its direction changed accordingly. Experimental illustrations of these changes in direction are given in Mr. Faraday's paper in the *Philosophical Transactions* for 1851, part 1, par. 2843, &c. Now, this by the hypothesis is assumed to take place in the atmosphere. Supposing it all at mean temperature, the lines of force would have the direction determined by the arrangement of the power within the earth. Then the sun's presence in the east would make all the atmosphere in that region a worse conductor; and as the sun came up to and passed over the meridian and away to the west, the atmosphere under its influence would bring up changes in direction; it would, therefore, manifestly set a needle in a given latitude in opposite directions as it passed by; and as evidently set two needles in north and south latitudes in opposite directions at the same moment of time. As the night came on and a temperature lower than the mean came up from the east and passed over, the lines of force would be inflected, and a reverse variation of the needle to that which occurred before would now take place. That natural effects of variation must be produced consequent upon the magnetic nature of oxygen and its daily variations of temperature is manifest; but whether they cause the observed variations, or are competent to do so, is a question that can only be decided after very careful inquiry. Observations are now made on the surface of the earth with extreme care in many places, and these are collated, and the average or mean result, as to direction and intensity of the earth's force, ascertained for every hour and season; and any or all of these variations may be examined, first by the direction which the varying needle does or ought to assume, and then by the amount of the variation. The hypothesis now brought forward has been compared with the mean daily variation for all the months in the year at north and south stations, as Toronto and Hobarton, and at many others near to and far from the equator, and agrees in direction with the results observed far beyond what the author had anticipated. Thus the paths described by the upper ends of free needles in the north and south hemispheres should be closed curves, with the motion in opposite and certain directions, and so they are—the curves described by needles in north or south latitudes should be larger in summer and smaller in winter, and so they are—a night of cold action should grow up in the winter months, and such is the case—the northern hemisphere ought to have a certain predominence over the southern, because of its superior temperature, and that is so—the disposition of land and water ought to have an influence, and there is one in the right direction—so that in the first statement and examination of the hypothesis it appears to be remarkably supported by the facts. All these coincidences are particularly examined into and stated in the *Philosophical Transactions* already referred to. The next step will be to ascertain what is the amount of change in the conducting power of the air for given changes of temperature, and then to apply that in the endeavour to ascertain whether the amount of change to be expected is (as well as the direction) accordant with that which really occurs.

ATMOSPHERIC INFLUENCES.—NEW SERIES—No. VIII.

BY FRANKLIN COXWORTHY, AUTHOR OF "ELECTRICAL CONDITION."

The terrestrial part of our subject having been disposed of during the oxygen period, we have now to show how was formed that atmosphere which at present surrounds the globe, and during the early periods of which the deposition must have continued, as is evident from the depth in the earth at which are found entombed the first of the mammalia, or warm-blooded tribes, terminating in man, to whom the respiration of oxygen, in a very short time, is as fatal as carbonic acid; but, before we proceed with this interesting portion of our history, we are induced to venture a suggestion on a question respecting which much diversity of opinion prevails—viz.: the formation of meteoric stones—although, possibly, with the inquiring reader such an enunciation may not be necessary, since our principles admit of but one interpretation.

That metals, and it may be said all other matter, will partake of the gaseous form is a position, we believe, few will be disposed to question; and although we may be in ignorance of the conditions which prevent their assuming the solid form when exposed to a lower temperature, that such conditions do prevail is equally unquestionable, and may possibly be referable to a combination of gases, since an amalgam of several metals, comparatively refractory of themselves, is fusible in water below the boiling point. Matter in the gaseous form is negative, whilst the upper regions are positive; there is, therefore, a high electrical affinity between them, and in those regions the gases must continue to float until circumstances cause their condensation, which would necessarily be accompanied by (in common parlance) the evolution of heat and light. That the volcanoes of old supplied those gases in prodigious volumes there is no doubt; and that they are now evolved from present volcanoes and our iron founderies, may reasonably be assumed.

We have already remarked that carbonic acid is a compound of 27 carbon and 73 oxygen, and that, consequently, during the coal-bed formation, for every 27 tons of carbon deposited, 73 tons of oxygen were liberated to the atmosphere; and in our communication to Professor Faraday, of 1846, we observe—

> Whether the atmosphere is, or is not, a chemical compound, and is now regenerated by plants, may most readily be decided; and in addition to the facts I have already adduced against the doctrine of the diffusion of gases, and of that of the atmosphere being merely purified of its carbonic acid, it may be observed that it would be difficult to understand what has become of the vast amount of oxygen that must have been liberated during the production of the vegetable matter that formed the coal beds, since it is reasonable to suppose that before the existence of the vegetable kingdom, all the oxides (of the earths) had been formed.

And although it is true that, during the oxygen period, a few pounds comparatively of sulphuric and other acids were formed, and applied to the formation of salts—such as gypsum—it is evident, we think, that the atmosphere is the only source to which this vast bulk of matter can be traced, and wanting at present those appliances necessary to the proof that the vegetable kingdom now *regenerates* the air consumed by respiration and combustion, we shall endeavour to present, in a condensed form, the several facts and principles which appear fatal to existing doctrines, but are corroborative of our own views, although in so doing we may possibly advance little more than was adduced by Mr. Lee Stevens in his papers of 1849.

To whatever section of philosophy attention be directed, a unity of purpose to the accomplishment of the MAKER'S object is observable throughout. If, then, the atmosphere be merely a mechanical mixture of its gases, to the re-formation of the air consumed, those gases should be liberated under similar conditions, or should possess properties calculated to bring them together; but, on the contrary, nitrogen is evolved during combustion in a heated state, calculated to give it an ascending influence; and oxygen, by the vegetable kingdom, under cold or electric conditions. Nitrogen is not absorbed by moisture in any appreciable quantity; whilst oxygen is highly soluble. Nitrogen is of less specific gravity than air; oxygen of greater specific gravity. Here, then, we have facts and principles immediately opposed to the doctrine of diffusion; and if attention be directed to meteorology, the old school will be found no less wanting.

Snow and rain, we are informed, are nothing more then congealed and condensed vapour; but the former is deposited on the tops of mountains at least a mile and a half above the point of eternal frost in the atmosphere, which point *vapour* could not pass, since at the temperature of 32° it would be frozen, and condenses at a much higher degree; clouds from which rain is falling are invariably black, or of a dark colour, whilst from white clouds or "cumuli," which resemble condensed vapour, rain *never* falls, and clouds are frequently jet black by reflected light, whilst condensed vapour is always white: and we are informed by Mr. Green that from a large cumulus, viewed in an opposite direction from the sun, matter resembling spangles are seen to fall in showers, and this matter when collected on the balloon or car, is solid in texture, and does not dissolve; and Liebig states that both rain and *snow water* invariably contain ammonia, which certainly could not be collected from the atmosphere by snow in its descent, since snow reaches the earth only when putrefaction does not take place, and, therefore, when ammonia cannot be evolved to the atmosphere.

In the papers, however, which we submitted to Prof. Faraday in 1846, and in which there is not a single expression we should be disposed to recal at the present time, we observe—

> I suspect that water, during evaporation from natural causes, undergoes decomposition; and in support of that opinion, it may be observed that it is decomposed by the galvanic battery; and the utmost man can accomplish being to bring into operation principles that are already in existence in nature, there must be a decomposing influence in the atmosphere, otherwise the poles of a battery could not possess that property.

And of the existence of which principle we shall hereafter afford further evidence; and—

> Assuming, then, that gases, like ALL OTHER MATTER, are subservient to the *universal law of gravitation*, and that vapour undergoes decomposition during evaporation, there must be at the uttermost bounds of the atmosphere the gases of vapour, carburetted hydrogen and nitrogen, which, of course, arrange themselves according to their relative specific gravities: we should, therefore, have—
>
> Gases of vapour ..... { Oxygen ..... / Hydrogen.... } Rain.....
> Carburetted hydrogen..... { Carbon ..... / Hydrogen.... / Nitrogen .... } Ammonia ..... } or together,
>
> would form a compound (snow) which, on its decrystallisation, resolves itself into water, ammonia, and carbon.

The water or rain, then, brings down the ammonia; and carbonic acid, which is also highly soluble, is generated by combustion, respiration, decay, and putrefaction; there is, therefore, presented to the root of the vegetable kingdom—

Ammonia	Hydrogen	Fixed by the plant.
	Nitrogen	Air.
Carbonic acid	Oxygen	Air.
	Carbon	Fixed by the plant.
Water	Oxygen / Hydrogen	Partly fixed and evolved as vapour.

the nitrogen and oxygen combining *chemically* under the influence of the electrical condition of the plant, and *regenerating* the air destroyed by combustion, &c. We shall hereafter show, on the above principles, how we conceive OUR atmosphere was originally formed during the oxygen period.

DISCOVERY OF A SILVER MINE IN PENNSYLVANIA.—Little more than a year ago a lead mine was discovered near Phœnixville, Chester county, in this State, and the Legislature last year chartered a company to work it, under the title of the "Chester County Mining Company," with a capital of $80,000, divided into 16,000 shares, equal to $5 per share. It was subsequently discovered that what was supposed to be only a lead mine was much more largely a silver mine, the value of the silver found mixed with it being much greater than the value of the lead, though the latter metal is said to be of a very superior quality. We learn that the amount of silver-lead ore raised and dressed, or in course of dressing for smelting, is estimated at 300 tons. The stock of the company has recently been brought on the market, and is already selling at over 100 per cent. on its par value.—*Philadelphia Ledger.*

PROGRESS OF GEOLOGY AS A SCIENCE.

The rapid extension of a comparatively clear conception of the changes and modifications which have for ages been taking place on the surface of the planet we inhabit, form one of those features in the increased insight into physical science which has so peculiarly marked the past half century. The knowledge obtained by the development of a vast amount of physical facts connected with the changes in the disposition of the various strata, and the inquiries thus induced into the causes of these displacements and general phenomena, lead the observant geologist to consider himself, as expressed by the immortal Newton, "only a child picking up pebbles on the shores of the great ocean of truth." It has been justly observed by Humboldt, that to see merely is not to observe, or to compare and combine, a due exertion of which powers of mind are, perhaps, more particularly necessary in this deeply hidden science than in any other, the investigations into most of which are assisted by a more palpable appeal to the animal senses. In geological works generally, however correct in explanations of facts, and however happy in the hypotheses adopted to account for extraordinary phenomena, the endeavour to impress upon the mind of the reader the indispensibility of correct observation, as well as persevering researches, has not been so marked as the importance demands; and [illegible] with much pleasure we now notice a volume just published by Messrs. [illegible]gman and Co., Paternoster-row, from the pen of Sir Henry T. De la Beche, C.B., F.R.S &c., under the title of *The Geological Observer*, in the preface to which the above observations are fully supported. It is observed that the history of geology, like that of all the sciences depending for their effective advances on experiment or correct observation, amply proves their truth. It is not necessary to look far back to be fully aware of the many brilliant hypotheses which have given way before correct research; not that these hypotheses were intended as substitutes for sound and practical geological knowledge based on correct data, but merely that correct observations were not then sufficiently abundant, and that powerful and impatient minds supplied their place with conceptions more captivating than well-founded.

The author informs us that with these views the work was undertaken, in the hope that the experience of many years might assist, and probably abridge, the labours of those who may be desirous of entering on the study of geology, and especially in the field. Its object is to afford a general view of the chief points of the science which existing observations would lead us to infer were established, to show how the correctness of such observations may be tested, and to sketch the directions in which they may apparently be extended. A little treatise, *How to Observe in Geology*, having been long out of print, a somewhat similar name has been given to this more important and greatly extended volume. The task undertaken by the talented author has been most ably fulfilled, and while the general contents of the work are of that impressive character which the dignity and magnitude of the subject give, it contains detailed narratives, explanations, clear and lucid instruction, amusing and instructive alike to the tyro and those more advanced in the study of the sublime science on which it so ably treats.

THE CRYSTAL PALACE.

This marvellous structure, extraordinary alike from the materials of which it is composed, the magical rapidity with which it has been raised, and the philanthropic and important purposes to which it is applied, has already been the theme of so much well-written and interesting information, that from the press alone the public are in possession of all general knowledge which could be conveyed on the subject. To those, however, who would wish to trace the growth of the colossal undertaking from its commencement, and make themselves acquainted with the entire features of this great national enterprise, for enshrining in one huge monument the products of the skill and industry of all nations, minute details and facts, arranged in chronological order, are necessary; and in a work just published by Messrs. Peter Berlyn and Charles Fowler, jun., these desiderata are supplied in a most efficient and praiseworthy manner. Mr. Peter Berlyn is the gentleman who was engaged to translate the catalogue into the French language, and, with his coadjutor, having been connected with the gigantic undertaking during the greater part of its progress, they have been enabled to trace, in a more consecutive manner than has been before attempted, a complete history of the design and execution of the building up to the period of its completion. It is impossible to peruse this work without being struck with the steady perseverance of the commissioners; the vast interest excited by the novelty of the idea of establishing an Exhibition, at which the denizens of all nations might exhibit the products of their skill; the celerity with which opposite and antagonistic interests became reconciled and dovetailed into each other; and the wonderfully constructive skill of this country, and her extraordinary mechanical resources when called upon for any unusual effort. The Royal Commission for carrying out the great scheme was gazetted on the 5th Jan., 1850. On the 13th March the building committee advertised for suggestions and designs, copies of which appear to have found their way into every corner of Europe. On the 9th May they presented a report to Prince Albert, stating they had examined the 233 designs which had been sent in. From France, 27; Belgium, 2; Holland, 3; Hanover, 1; Naples, 1; Switzerland, 2; Rhenish Prussia, 1; Hamburgh, 1; London, 128; other parts of England, 51; Scotland, 6; Ireland, 3; anonymous, 7, one of which is purported to be from a lady. After numerous meetings, much correspondence, and suggestions for a building, made up by the committee from the most imposing and useful features of the whole 233 designs, Mr. Paxton's having in the interim been brought before the public, on the 16th July Messrs. Fox and Henderson's tender for its erection for 79,800*l.*, returning the material, or 150,000*l.* if retained, was verbally accepted, and as soon as the necessary arrangements could be made, the contract was formally concluded. Time has thus brought us into the month of August before a turf was turned, or a single arrangement made for the castings, the glass, or other material with which the construction was to be effected; and yet in the space of nine short months, comprising an entire winter, was the largest building in the world produced, and erected on principles entirely new, for every detail of which unusual and unpractised provision had to be made.

The volume under notice, after a description of the various buildings on the continent and in England, which had been erected for similar purposes, enters at length into every detail connected with Mr. Paxton's design and execution of the work—the iron castings, glass manufacture, sash bar cutting-machine, the mode of glazing, the gutters, circular planing-machines, the girders, drilling and punching-machines, testing the iron girders, &c., roof of transept, cranes and crabs employed, sash bar painting-machine, method of paying the men, and, in fact, every minutiæ by which a thorough knowledge of the whole proceedings may be arrived at. The whole is illustrated with 72 beautifully executed illustrations on wood, among which we are happy to see the design of Mr. Hector Horeau, architect, of Paris, one of the most beautiful sent in to the committee. The whole was to have been constructed of iron, without a single piece of wood; the foundation brick; the façade metal, porcelain, and glass; the floor asphalte, and roof of glass; simplicity, grandeur, ready means of construction, and of increasing and diminishing the accommodation, or of entire removal, were the features of this design. There is also a representation of the design of Messrs. R. and T. Turner, of Dublin. The volume is elegantly finished in all its appointments, and will, doubtless, be appreciated by the public.

IMPROVEMENTS IN GAS MAKING.—The gas retort invented by J. Rennie Esq., Gowanbank, has now been in operation at Grahamston Gas Works, Clackmannanshire, for upwards of two months, and is evidently calculated to effect a most important saving in the production of gas. It is a rotary cast-iron retort, suspended at the two extremities, which rest on a series of friction rollers. Its revolution is effected by an ingenious application of lever power, which opens the furnace door and propels the retort in its rotation by the same touch of the fireman's hand, thereby rendering it impossible to feed the furnace without, at the same time, revolving the retort as many degrees as may be necessary. The report of two months' experiment shows that more than one-half of the furnace fuel is saved—a saving important everywhere, and especially so where, from distance, the price of coals is high. The gas by the rotary retort is produced at a lower temperature, and, consequently, it is purer and of a higher illuminating power. In the ordinary retorts it is well known there accumulates a large deposit of carboniferous matter, which proportionally diminishes the yield of gas, and accelerates the decay of the retort, particularly if it is an iron one. Both these losses are obviated by the present patent. There are several other advantages connected with it: by placing the hydraulic main slightly below the level of the after-end of the retort, from which the gas issues, a considerable saving in sets of pipes is effected; the brick is cheaper, and the damper is placed in a more effective position.

GREAT PEAT WORKING COMPANY OF IRELAND.—We have, on several occasions, remarked on the formation of companies for the manufacture and conversion into merchantable products the rich peat bogs of Ireland, and we have now before us a prospectus of a company under the above title, formed also for the purpose of converting peat, but which is distinctly stated not be a chemical company. The manufacture will be carried on under patented processes, discovered by Messrs. Gwynne and Hays, who are stated, after four years' labour, to have succeeded in discovering a system of operations, and completing suitable machines, whereby the articles of commerce are abundantly produced at rates of cost from which, while they will enable the company to command the market, large profits will be realised. The principal productions are peat coal—that is, peat dried and solidified by mechanical means into a substance of equal density with coal, but which does not clinker. Peat charcoal of a peculiar and very superior quality, the principle lying in improved modes of drying and carbonization, producing a compact and weighty fuel, free from sulphur, and of great heating power. Peat tar, which, though possessing the properties of stearine, is by the company's process obtained in a liquid form, and will prove a substance of singular value, commanding extensive application for preserving timber and vegetable substances from decay, and for the manufacture of a gas the luminous power of which is 2½ times greater than coal gas. The capital of the company is 500,000*l.*, in shares of 20*l.* each. We shall give further particulars of this invention, which we consider one of value and general interest.

WARING'S PATENT MACHINE FOR CUTTING COAL HORIZONTALLY.

Fig. 1.

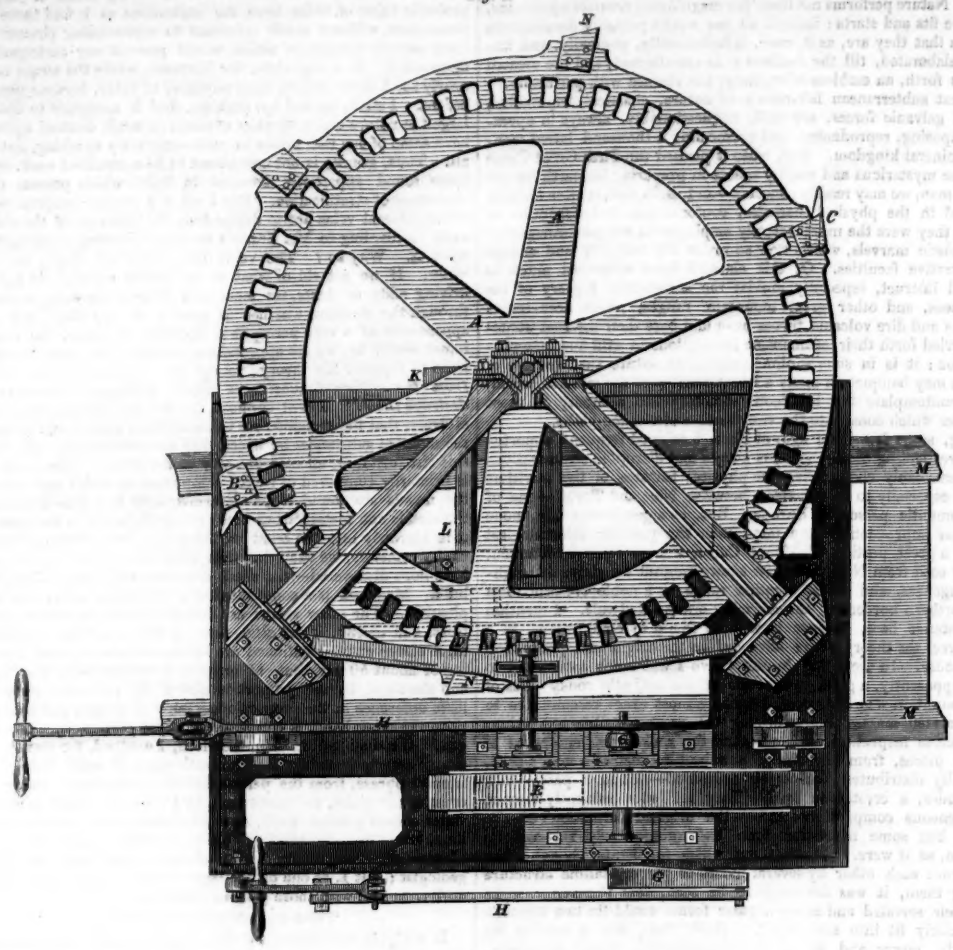


Fig. 2.

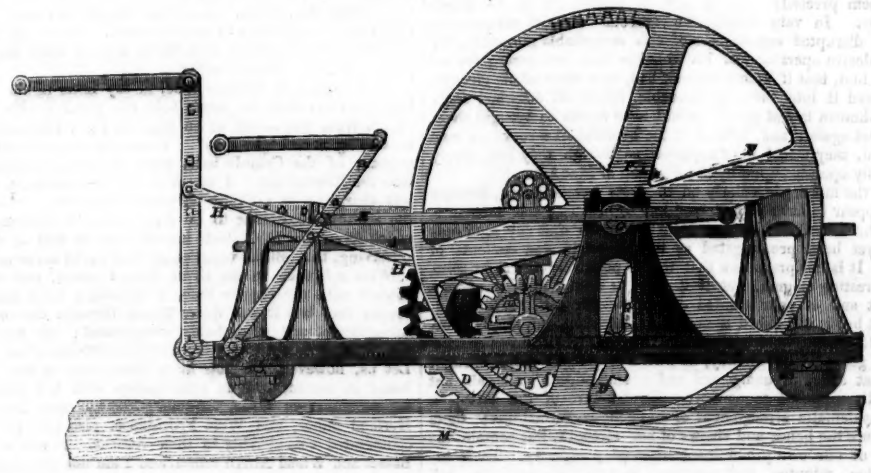
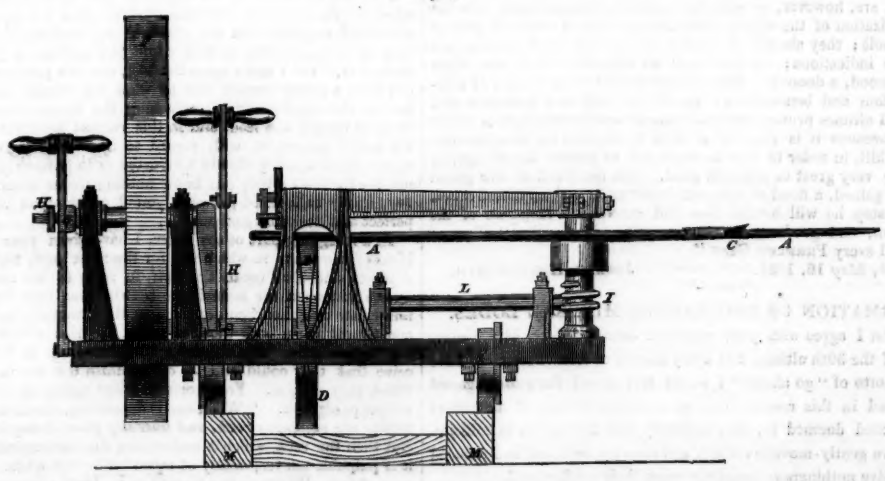


Fig. 3.



In the *Mining Journal* of the 10th inst., we gave engravings and a description of Mr. Waring's valuable invention for cutting coal vertically, and incidentally alluded to the machine for cutting it horizontally. The great interest which has been excited in "the coal-trade" by our former notice of these ingenious devices for facilitating the production of coal and other minerals, induces us to believe that a more extended notice of them will be acceptable to our readers; and we, therefore, now submit to them engravings of the second machine for cutting horizontal grooves, which is peculiarly adapted for long work, and may be used advantageously wherever there is sufficient length of face to allow it to be employed.

Fig. 1 is a plan; fig. 2 an elevation; and fig. 3 an end view of the machine. In all the figures the same letters are used to denote similar parts. A is the cutting-wheel, furnished with cutters, fixed in sockets on its edge at B and C. Two cutters are usually employed—one of which is of the bird-mouth or V-form; while the other is of a pointed or spade form. These acting in succession, break away the coal much more effectually, in less time, and with less resistance than if both cutters were of the same form. The cutters are made of cast-iron, chilled in the face, and cost from 1½d. to 2d. each; may be varied in design, but two or more dissimilar in shape ought always to be used. The form of the cutters tend to keep them sharp, as they wear in a direction parallel to the circumference of the wheel; so that they continue to sharpen themselves until quite worn away. D is a wheel, which gears into apertures in the cutting-wheel, A. The wheel, D, is driven by the pinion, E, and internal wheel, F. The wheel, F, may be driven in various ways; in the engraving it is shown as driven by hand by means of the cranks, G, and connecting-rods, H. The machine may be driven by steam, water, or other power, or a vacuum engine might be advantageously employed for this purpose, which would serve to ventilate the place of work, and thus avoid the necessity of constructing brattices, or special air-ways, for that purpose. The machine is placed on a railway, M, on which it is gradually advanced along the face of the coal, and by means of a chain fixed at each end of the face of coal, and passed round the shaft, L, which receives a slow motion from the wheel, K, and endless screw, I, on the shaft of the cutting-wheel, A, a narrow horizontal groove is thus made along the face of the coal, which is afterwards to be broken out by hand. If desired, the machine may be made to carry two cutting-wheels, placed one above the other, so as to cut two grooves in the face, and permit the intermediate mass of coal to be easily removed. The cutting-wheel is provided with sockets, N, N, set in the opposite direction to those already mentioned; so that by shifting the cutters, and reversing the motion, the machine will operate on the coal in returning back along the face. The peculiar method of driving the cutting-wheel enables it to cut a groove of a depth nearly equal to its radius. It may, however, to driven like the wheels of the vertical machine before described, or by a spur or bevel wheel on its axis, in which case the cutting-wheel may consist simply of arms, with the cutters fixed to their extremities.

The size of the machines, as well as the position of the cutting wheels, ought to be adapted to the thickness of the seams, and to the peculiar circumstances of each colliery. The drawings and descriptions which have been given will convey a general notion of the design and mode of working; but as these machines were made purposely for experiments, they are not so perfect in all their details as others will be, in which many improvements will be adopted.

The present arrangement of the cutters was adopted, after many experiments with circular saws, as being best adapted to the work. In a common saw a great amount of power is wasted in overcoming the pressure against the points of a number of teeth. In these machines there is no pressure on the points of the cutters, as they advance suddenly whilst they are out of or just entering the cut; thus the whole force employed is economised and concentrated with as little waste of power as is possible. Nor is the saving in power the only advantage to be derived from the use of these machines, but much less "slack," or waste small coal, is made by them than in the ordinary mode of hewing, and a diminished area of coal is operated upon. In the usual way of *holing* or *kirving* by the *pick* or *mandril*, an opening is made at the bottom of the coal from 9 to 10 inches in height in the face, and from 2 to 3 in. at the back, to the depth of 2½ to 3 ft.; whereas by the machine the opening does not exceed 2 in. throughout the whole area. Taking the *holing* by mandril at 6 in. as the average height, and 3 ft. in depth, it gives 216 square inches; whilst by the machine it is only one-third of this amount, or 72 square inches, which makes a saving of 144 square inches, which, in a 4-ft. seam, makes a difference of one-twelfth part of the whole quantity of coal, or about one-tenth of that brought to bank, the small from the *holing* being left in the mine; so that for every 10 tons of *rubbly* coal worked by the present method 11 tons would be produced were these machines employed. Additional saving in quantity would be effected were the vertical machine used in cutting the *slips*, or ripping *down* the coal. This increase in the yield of coal in a given portion of the seam would materially diminish the *dead charges* payable on the coal, besides the direct benefit which would arise from the enlarged production. By cutting both top and bottom *kirves*, the use of gunpowder might be altogether avoided—"a consummation devoutly to be wished," for the sake of the health and safety of the miners, as well as for the interests of the coalowners.

Another very important benefit which the use of these machines would confer, would be the increased density of the coal thus worked, from its being obtained in a larger, more solid, and less shattered condition. The difference between the real density or theoretical weight of coal, and its economical weight in a broken state has been proved to be from 45 to 60 per cent.; whilst the patent fuel, which is made in a form to be packed close, and is not subject to much breakage, only suffers a loss of 22 per cent. in stowage. It is, therefore, of great importance to work the coal as large and as cubical as possible, so as to give the largest possible weight in a given space; and it is obvious that this very important object will be much more readily accomplished when the coal is cut by these machines, than when it is torn from the bowels of the earth by gunpowder, or knocked to pieces by the mandril. The increased value of the coal by being worked large has been already noticed, and the additional profit thus to be obtained is too evident to admit of a doubt or to require repetition.

There are many other points in relation to these very valuable inventions which might be urged in their recommendation, but we trust enough has been said to obtain for them the favourable consideration of such of our readers as are engaged in coal mining; we, therefore, conclude our notice of the coal-cutting machines by the expression of a hope that the talented inventor will speedily reap a just reward for the perseverance he has displayed, and the labour and money he has expended, in accomplishing his meritorious object of alleviating the severity of the labour endured by the miner, and at the same time diminishing the cost of producing coal—the sinew of our commercial greatness.

GREAT CIRCLE SAILING.

[Specification of letters patent granted to Edward David Ashe, of Brompton, in the county of Middlesex, Lieutenant in the Royal Navy, but now residing at Quebec, in Lower Canada, for a new or improved nautical instrument, or instruments, applicable especially, amongst other purposes, to those of great circle sailing.]

It having been satisfactorily proved that the adoption of great circle sailing will shorten the duration of sea voyages to some considerable extent, it follows that any invention that will render the practical adoption of the system an ordinary and everyday matter is of the highest importance to the commercial world and mankind in general. This important desideratum forms the principal object of Lieut. Ashe's invention, from whose document we quote the following:—

My invention (he states) has reference to the production of an instrument, or instruments, applicable to nautical purposes, and more especially to those of great circle sailing—that is, sailing in a course which will form an arc of a great circle on the globe, such being the shortest course. I, therefore, construct such instrument, or instruments, with the view to indicate with facility and sufficient accuracy the course of a ship on the great circle between any two places, either at setting out on a voyage, or at any given period thereof—the said instrument, or instruments, being also applicable to the purposes of ascertaining the true bearing of the sun, or other heavenly body, by their amplitudes or an azimuth. This instrument is not to supersede the necessity of ascertaining the place of the ship by observation in the usual manner; but that being done, the course of the ship on the great circle, thence to the destination, may be shown by using the said instrument, as hereafter set forth and described. With these views and intentions, I construct such instrument, or instruments; so that against an ordinary mariner's compass card, or other similarly divided circle, may be indicated the course requisite to be steered, which is effected by means of a graduated curved limb, or arc, held against two graduated semi-circular curved limbs, or arcs, duly adjusted with regard to each other, and to a point representing the zenith—the two latter arcs being hinged or jointed together at their extremities or poles, and capable of adjustment to various angles thereat; clamps, or fastenings, being furnished for holding the former limb, or arc, in the requisite positions.

The arrangements above described may also be adopted, so as to encircle a common terrestrial globe, which forms an instrument well adapted for purposes of instruction.

The mode of using the instrument, or instruments, is this:—To determine the great circle course, the two conjoined graduated curved limbs, or arcs, serving as moveable meridians, are to be opened, so as to form such an angle with each other as corresponds with the difference of longitude between the two places. This is measured on the graduated curved limb or arc, held against the former, and serving as the course circle, when placed against the equator, or middle of each of the separated moveable meridians. These are then to be fixed at such angle by means of the clamping screw at the pole. If the vessel be bound to the eastward, the course circle is next to be placed, with the index at zero, against that part of the edge of the meridian which denotes the latitude of place at starting, and another portion of the course circle against that part of the edge of the meridian which denotes the latitude of the place bound to. The clamps are to be used to fix the course circle in this position, which will then represent that of the particular great circle which cuts through both places. If the vessel is bound to the westward, the instrument will require to be adjusted in a reverse order, with regard to the meridians and the course circle; whilst the index, placed at its zero, is to be adjusted to the proper meridian. On bringing the position of the vessel at starting under the zenith, by means of the pinions, the required course will be indicated on the compass card, or on the compass ring, where that is adopted by a line on the centre of the non-adjusting face of the course circle; and, as the vessel proceeds, the index is to be moved onwards in its groove, according to the distance travelled measured on the said course circle; and as often as this is done, and the index is brought under the zenith, the requisite course will be indicated in the same manner. For the convenience of illustration, red lines are adopted to exemplify the movement of some of the parts.

To Find the True Bearing of a Heavenly Body.—If by an amplitude, then bring the latitude of the place measured on one meridian under the zenith; and the place where the declination of the observed body measured on the other meridian cuts the horizon, measured by the compass card, or compass ring, when adopted, will indicate the true bearing. If by an azimuth, adjust the course circle to the moveable meridians, with its zero coinciding with the latitude of the place (measured) on one meridian, and the observed body's zenith distance measured on the course circle coinciding with the body's declination measured on the other meridian; then bring the zero under the zenith, when the course indicated against the compass card, or compass ring (or the compass ring, if adopted), will the true bearing of the observed body.

Having now described the nature of his invention, the inventor declares that he does not claim the separate parts set forth; but the instrument or instruments, considered as a whole, is what he does lay claim to.

Electro-Magnetism.—On Thursday the Chevalier Le Molt held a *conversazione* at his residence, Wigmore-street, Cavendish-square. In the course of the evening several interesting experiments were shown, which we regret our space does not now enable us to give in detail, but we shall recur more fully to them in our next. The electric light, as shown by M. Le Molt, appeared to possess a uniformity of colour and power, in which several others are deficient. The carbon used by M. Le Molt is almost pure, and specially prepared. The light, when brought to bear with its full strength, illuminated the street to a great distance. In honour of the celebration of her Majesty's birthday this evening, the light will be shown in all its force.

Original Correspondence.

THE NATURAL PHENOMENA OF METALLIC VEINS:

AN INVITING BUT PUZZLING THEME.

SIR,—There is a peculiar gratification, and not unfrequently an abounding utility, to be derived from the investigation of all great natural truths; some minds, happily for the community, are so constituted as to be inherently imbued with a kind fascination and enthusiasm for such scrutinizing pursuits, insomuch, that through every disparagement, they patiently pursue the even tenor of their labours, till they either discover the actual basis of a solution, or can achieve the full and triumphant development of the objects of their research.

The wonderful arcana of nature on every hand abound, and afford the fullest scope for the exercise of the intellectual powers of spirits of this calibre; but few, however, of the vast and varied departments constituting her terrestrial arena, are more vividly rife in interesting and instructive phenomena than those of mineralogy and geology. Here, is a grand field of magnificent and mystical subjects, in which the practical man, the theorist, and the votary of science, may alike well embark with unwonted ardour, and should indeed pursue their respective labours in mutual concord; for, however disposed they may be, as they sometimes are, to jostle each other by the way, they cannot very well expect to arrive at any very great or startling results, irrespective of each other's aid. Their discoveries and speculations severally tend to augment the general stock of knowledge,—a contribution, indeed, of its kind, almost indispensible to the due elaboration of a fact or a system, multitudes of which are requisite to the constitution of the one comprehensive, glorious and beautiful whole.

The foregoing brief reflections have mainly been induced from having observed that of late, a very promising and laudable spirit of controversy is frequently manifesting itself in the pages of your wide-spread and excellent journal; and which, with truth for its aim, and moderation for its guide, can scarcely fail to be productive of many enlightening and happy results.

The origin and production of metallic veins appears at the present time to be the chief subject of discussion. That it has been treated with much ability—an astuteness of observation worthy of the cause, and that some striking facts have been elicited, cannot be denied; but, at the same time, it is abundantly evident that, as yet, there is scarcely an approach to a satisfactory solution of the main questions at issue. Mr. Ennor goes manfully to the attack, and his oftimes skilful skirmishes bear ample testimony to his having long and duly taken instructive lessons out of the "Book of Nature." Mr. Franklin Coxworthy's theoretical views are, for the most part, well and substantially supported by his clever scientific illustrations and deductions. Whilst, "A Practical Miner" positively comes forth as a *practised* essayist! and hurls about his "stubborn facts," like "a man having authority," and fully conscious that his palpable hits and proof-shots are right well calculated to shatter to atoms the stately structures of his avowed scientific and speculative opponents.

As regards the sources from whence the ores now found deposited in lodes were derived, Mr. Coxworthy and others are of opinion that they were respectively eliminatad from the vast internal, deeply-seated laboritories of the earth. Mr. Ennor sanctions the belief—which of late has been a good deal disseminated abroad—that they have their origin from certain of the bounding rocks, more highly charged with the metallic oxides, or basis, than their neighbouring congeners. But, this veritable "Practical Miner" adduces a series of his notable demonstrations, as proofs positive of the fallacy of such conceptions,—at least, as laws of nature. Whilst, however, all this is going on—agitating the mining world to its centre, and weekly inspiriting the columns of the *Mining Journal*—our sly friend Hopkins, who enjoys a well-earned reputation in such mundane matters, sits complaisantly ensconced behind the pages of his "Terrestrial Magnetism," and cannot, it would appear, be either provoked or coaxed to come forth, with his *electric* torch in hand, and enlighten us on that invaluable *panacea* for mining mishaps,—the knowledge of discerning, by the test of the eye, a "*metalliferous*" from a "*non-metalliferous* channel!" As yet, the uninitiated can only hope to judge of their presence by their *effects*; and these, of course, are developed by the miner, as in the dubious course of his labours, he breaks into a rich or barren division of the lode he is exploring,—not unfrequently, forsooth, a confoundedly expensive mode of acquiring the coveted information.

I would not be thought to wish to deny the existence of these metallic courses of strata, any more than I would the received fact of magnetic currents constantly passing through the formations of the earth, in their transit from south to north; and as it would seem, acting as the prime medium for the deposition of the ores, found mainly in the east and west lodes. That some strata are more congenial for the production of the metallic ores, than others, cannot be denied,—the miner often designates them by the term "kindly,"—and moreover, the operations of the miner have not unfrequently proved that the character, &c., of the ore changes with the alterations which occur in the nature of the bounding or adjacent rocks. So frequently, indeed, has this been remarked to be the case, that observant and scientific men have, perhaps, in their over-anxiety to build up "*a system*," set this down as a guiding rule or natural law. Our "Practical Miner," however, says no,—it is not so! and for proof he points to some stern fact of Nature, who, provoking dame, echoes back—'Tis not so! And, as though she loved to disport with the pride of human intellect, and take the conceit out of the most froward and positive, she, in sundry instances, so often repeats the very circumstance we had marked down as one of her *exceptions*, that at length we are compelled to discard them as such, and actually take them as the *rule* of our future guidance! Such are some of the anomalies and sportive vagaries of nature. However, of this we may rest assured, that notwithstanding her apparent confusion and disorder, she is the parent of harmony, beauty, and economy; and, be her handiwork whatsoever it may, it will invariably be found to bear, everywhere, the deep impress of those glorious attributes. As in,—

> "The moral world,
> Which, though to us it seems embroil'd, moves on
> In higher order; fitted, and impell'd,
> By wisdom's finest hand, and issuing all
> In general good."

In discussing the origin and character of metallic veins, the igneous and the aqueous theories have been commonly called into requisition; but, as far as I have observed, without arriving at any satisfactory explication of these, so to speak, stupendous mysteries. Now, I have ever loved to contemplate dame Nature, in all her multitudinous phases, but have been an especial ponderer over them, as presented in the physical structure of our glorious orb, during many years, and in many lands; and I must say, that few phenomena have struck me as more remarkable than the mighty system of metalliferous repositories we are now descanting upon. There is, however, one feature in the mechanical structure of the aggregated materials found in the great majority of lodes, which has often deeply rivetted my attention, as tending, though simple in itself, to involve some remarkable considerations, not only as to the means by which these mighty and provident fissures were produced, but the origin and concentration of their incongruous contents. Every person acquainted with the characteristics, we will say, of a crystalline lode, cannot fail to have observed, that almost any detached mass of the same will be found to be made up of angular pieces of the bounding rocks, pretty equally distributed, and having the interstices between them completely filled up by a foreign crystalline substance, and which (with also detached veins, masses, and courses of interspersed ores) often form the bulk or basis of the said heterogeneous admixture. Now, if these great cracks or fissures were suddenly rent open, by the violent explosive forces of the Plutonists, or Huttonians—how, we may well ask, were these said detached pieces of the adjacent formations—as often seen in mid-lode—held in suspension whilst the crystals which now separate them—and not unfrequently quite envelope the ore itself—were formed around them? The only rational inference which I imagine can be deduced from the phenomena, is simply, that crystalline forces operating in a line of what we now term a lode, and producing, in the first instance, the merest fractures in the rocky structure, continued their expansive action most gradually, but, as we often see in confined freezing water, most irresistibly, till their destined purposes were fulfilled, and the (*then*, perhaps, subaqueous) lode became much, if not wholly, what we now behold it.* Other forces, probably of a gaseous and chemical character, were doubtless operating at the same time; for the very character and mechanical structure of the "lode-stuff," or conglomerated mixed material, argues a simultaneous (though inappreciable) movement and action. Nature performs not these her magnificent *creative* operations, by convulsive fits and starts; indeed, all her works palpably demonstrate to our senses that they are, as it were, infinitesimally, gradually, and imperceptibly elaborated, till the destined ends are attained, and the created object comes forth, an emblem of mystery, but clothed with perfection.

In the great subterranean laboratory of nature, chemical, crystalline, gaseous and galvanic forces, are still, unquestionably, always in operation—decomposing, reproducing, and performing a thousand latent wonders in the mineral kingdom. But, when it pleased the First Great Cause to wield these mysterious and mighty agents in preparing the earth for the reception of man, we may readily conceive—and as, in fact, is often forcibly demonstrated in the physical character, conformation and disruption of strata—that they were the more actively employed in the performance of those geognostic marvels, which now so invite his curiosity and engage his demonstrative faculties. Of this class, I have witnessed much to astonish and instruct, especially amidst the stupendous scenery of the Alps, Pyrenees, and other great mountain ranges, where deep-seated perturbations and dire volcanic throes have laid bare their internal structure, and hurled forth their adamantine foundations in wild and magnificent confusion: it is in such sublime recesses of nature that the eye of the geologist may banquet on many a latent wonder of the mineral world, and freely contemplate the beauteous structure and economy of those glittering piles which constitute the vast frame-work of the globe.

Wintering, some few years ago, at Nice, I enjoyed frequent opportunities of investigating the tremendous gorges and disrupted stratifications which so remarkably characterize the physical features of the maritime Alps, and as especially to be witnessed between Nice and Turin,—one of the most romantic passes in Europe. But, as a geognostic fact, none made a deeper impression on my mind than the peculiar mineralogical structure of a great portion of Mount Calvo, a huge conical mountain, prominently seen from Nice, lifting its snowy summit far above its neighbouring congeners, and which together range in a noble crescent-form along the northern borders of her charming orange-clad vale. I mention this circumstance here, because it will be found to countenance, in a striking degree, the theory above advanced on the origin and production of metallic lodes. In ascending Mount Calvo I was much astonished to find that, apparently, a great proportion of the majestic rocky piles of which the mountain was composed, bore an almost exact resemblance to the agglomerated masses characterizing the great metalliferous veins; and, on a close inspection, I found that the rocks were composed of fragmentary pieces, from the size of a walnut to that of a man's head, pretty equally distributed, and being embedded—not in a paste—but, as in the lodes, a crystalline base. They all once evidently formed one homogeneous compact structure—the original formation of the mountain; but some irresistible force had subsequently shivered its massive form, as it were, to atoms; and which fragments, though often separated from each other by several inches of the crystalline structure surrounding them, it was distinctly to be seen, that if again brought together, their serrated and acute angular forms would (in two opposite pieces) precisely fit into each other. Here, then, was a notable instance of the power and action of crystallization, acting simultaneously on solid masses of rock, constituting a vast area, and fracturing and dividing them precisely as to be seen in almost any of the larger crystalline lodes. In vain would the igneous theorist attempt to account for the disrupted appearances of this remarkable mountain, by the violent explosive operations of his volcanic fires and gases; for we should then tell him, that if Vulcan himself had, by a blow of his gigantic hammer, shattered it into these innumerable, scattered, detached fragments, the well-known law of gravity would have forthwith brought them into close contact again; and, instead of the Septaria-like rocks we may now there behold, they would have appeared as though they had merely been industriously operated upon by the disciples of Mac Adam!

I have dwelt the more particularly on the facts here adduced, because they certainly appear to have a direct tendency to illustrate and substantiate the theory broached, and because I am not aware that any such opinions have as yet been promulgated as to the origin and contents of metallic veins. It is not presumed that this is positively the right solution of the interesting enigma, but if it imparts even a hint, or offers a suggestion, that any of your talented correspondents can, to this end, effectively profit by, it will afford me much gratification, and amply compensate for the little trouble here incurred.

The study of geognosy has already, as with a magician's wand, brought forth,—from that chaos of undigested and heterogeneous materials but lately so generally supposed to constitute the structure of the earth,—a beautiful and systematic arrangement of indigenous formations; these not only constitute the bones and sinews of her strength, but contain the grand elements of our own pre-eminent national prosperity. Their interior constitution, minutiæ, and economy, is yet, comparatively, but little known to us; the great arteries and veins we have now been speculating upon, are, however, we may rest assured, so introduced into the general organization of the mighty fabric, as to form an essential part of the *perfect* whole; they abound in mineral riches, and are duly furnished with infallible indications; for nature is no niggard, nor is she, when rightly understood, a deceiver. Her fair temple is the handiwork of consummate wisdom and benevolence; and if the road to it *is* strewn with difficulties, and oftimes proves a devious maze of bewilderment, it is wisely so ordained, because it is required of man to exercise his perseverance, industry and skill, in order to rise to eminence, to acquire knowledge, or to achieve any very great or essential good. The threshold of the grand arcanum once gained, a flood of light will burst upon his benighted mind, and at every step he will behold new and marvellous instances of the power, wisdom, and goodness of the Great Architect,—the "Giver of every good and every PERFECT GIFT."

Aberystwith, May 16, 1851. JOSEPH HOLDSWORTH.

* The common occurrence of isolated veins, &c., of similar character, and the fact,—as some little time ago remarked by one of your practical correspondents,—that the opposite sides of a lode do not commonly correspond, appear, alike to favour the opinion of this kind of spontaneous action having operated in the formation and production of metallic veins. The accumulation of ore probably depends on various conditions.

THE FORMATION OF PRODUCTIVE MINERAL LODES.

SIR,—Whilst I agree with your excellent correspondent, Mr. Ennor, in his letter of the 30th ultimo, that every branch of science seems to have adopted the motto of "go ahead," I would fain guard the public against a railroad speed in this respect, lest, as our present race of theoretical geologists seemed doomed to, they suddenly find themselves in collision with some more gently-moving vehicle, and thus get capsized and reduced to their primitive nothingness, prostrate upon their mother earth.

I fear that in our further discussion upon the formation and production of metalliferous veins, I shall frequently have occasion to show that I entirely differ from your very intelligent correspondent upon many points; but I should wish to conduct that discussion in the style and language of one desirous and endeavouring to arrive at the truth, or the nearest possible approximation to it, without cavilling at trifles, or distorting facts; hence I confine myself, as much as possible, to actual experience, or to undoubted information derived from my better-informed friends amongst some of the most talented and experienced miners of Cornwall, and founded, too, upon their own practice.

In my letter of the 5th instant, I disavowed an intention of intimating to the mining interest the hopelessness of looking for productive mines upon the line of lodes which were rich in some particular spot, and in contravention of such doctrine (which your correspondent, I observe in his letter referred to, puts very prominently forth) I noticed the most extraordinary productiveness of a continuation of lodes taking their course from Gwennap, through the parishes of Redruth, Illogan, and Camborne. I might also have mentioned the abundant riches of the Crenver, Oatfield, and Wheal Abraham lodes, in their run westerly, in the mines of Wheal Sarah, Benner Downs, &c. &c., and, if it were necessary to establish the rule, I might adduce many other instances. The truth is, the exceptions to the rule are comparatively few.

I am free to confess that I attach so little importance to the direction or declination of the strata in which I happen to find a metalliferous vein, that I am not prepared to give that of Crinnis, in fact, the ground for several feet in thickness about the course of ore was a complete clay (the miner's flookan), or so completely decomposed as to leave no trace of stratification; hence the enormous expense attendant upon the working of the mine, in the article of timber. I am in the habit of judging of the probable value of lodes from the indications as I find them in the lodes themselves, without much reference to surrounding circumstances; but there are circumstances which would prevent my anticipating valuable discoveries. In a clay-slate, for instance, where the strata is vertical, or nearly so, I never reckon upon anything of value, because there is no precedent. I shall, by and by, perhaps, find it necessary to discuss more at large the nature and properties of strata so much counted upon, though we have some of our rich mines in rock—correctly speaking, not stratified at all. Thus, granite is not considered to be a stratified rock, though sometimes found apparently disposed in beds, which possess the ordinary characters of stratification. But I am at a loss to comprehend the benefit which mineral veins are to derive from the drainage of the strata into the lode. According to Mr. Ennor's theory, everything would seem to depend upon it. Why so? The veins themselves are clearly the channels for water. If we get rid of what is technically called "*the top water*," by driving adits or drifts, we meet with little or no water in our cross-cuts through the stratum, whether in granite or clay-slate, and on the first appearance of a very perceptible drainage of water, the remark of the miner would be, we are approaching a lode; but, were it otherwise, how is he to support his theory, to use his own words, that "*the drainage from the different substances which surround lodes either feeds or destroys them.*" I will suppose, for the sake of reviewing his theory in abstract, that the metalliferous veins obtain a great influx of water through the different substances by which they are surrounded. How are they, by this circumstance, affected one way or the other? The crust of the earth is primarily composed of earthy compound, in which only two or three of the metals are found, either intermixed, or in a state of combination, for the metals and metalliferous ores principally occur in the veins; and if we look narrowly into the crust of the globe, as consisting of the earths and earthy minerals, we shall find that only three out of the ten earths which have been discovered—viz. silex, alumine, and lime—constitute its great bulk. Magnesia is a constituent of a mountain rock, but by no means plentiful. The other earths are found only in comparatively small quantities, and chiefly, *if not altogether*, in veins; and the constituents of the three earths above mentioned are known to be compound bodies, consisting of about 50 per cent. of oxygen, combined with the bases silicium and alumium, in the proportion also of 50 per cent., there being some little difference in the proportionate parts of oxygen and calcium. Water, upon the other hand, is composed of eight parts oxygen to one of hydrogen. We shall look in vain, therefore, I contend, for metalliferous deposits, "even to keep up the productiveness of small lodes," to use my friend's phrase, from the percolation or infiltration of water through the crust of the globe, so constituted, as I have described, even though that water should present itself, as it sometimes would, surcharged with iron, lime, salts, &c., in solution, unless we call to our aid the mystic agency of terrestrial magnetism and electricity—ever ready to the theoretical geologist; but I, as one of the "practicals," as my friend Argus has it, decline to deal with those gaseous phantoms.

> "They are such stuff as dreams are made of."

In a highly metalliferous district, the intersection of lodes and branches are so common, that they afford no data to go by; they sometimes seem to contribute greatly to the productiveness of each other, and at other times quite the reverse. A similar remark, it is well known to all practical men, is applicable to cross-courses. Lodes are oftentimes found to be rich in direct contact with them, and as often they prove wretchedly poor under like circumstances.

With regard to Crinnis lode, in my letter of the 30th ultimo, I intended to say that the small lode ran parallel with the larger one, and fell in from the south, at an angle of 75°; the declination of the other lode being at an angle of 45°. There was no perceptible alteration in the stratum of the Crinnis lode, when it became impoverished in passing into the Regent sett. I meant it to be understood, that the vein itself was charged with a highly chrystallized quartz, instead of metallic ores, the stratum continuing to be clay-slate, or argillaceous schistus,—under which term, Dr. M'Culloch includes this as well as the grauwacke slate, observing, that all the varieties of these rocks occur as parts of one series.

With reference to the silver lode, I stated, that upon its coming in contact with the copper lode, it formed a large mass of argentiferous copper ore, but it was never traced through the copper lode into the sub-stratum, and it probably disappeared; but our friend Mr. Ennor says, "silver is not a very favourable indication *about* our copper lodes." Let us, however, see how he is borne out in this statement. It was found in contact and in combination with the enormously productive copper mines of Great Crinnis, Dolcoath and Fowey Consols, in the Herland mines, and West Providence, also very productive mines, and contributed considerably to their returns. It was also found in Wheal Basset and Wheal Alfred mines, and I am not acquainted with any copper mine where it has been met with, which has proved a failure.

I do not subscribe to the theory of your correspondent, that unless we admit his theory of the influence of strata, and the mysterious problem of terrestrial magnetism in the creation and concentration of metalliferous ores in veins, we may as well adopt the hackneyed phrase "where it is there it is," for I insist upon the fact, that the practical and skilful miner can form a pretty correct view of what the results are likely to be when he has the opportunity of examining the backs of lodes, and especially those of copper and lead, and in this respect he might also form a tolerably sound judgement with regard to tin. But it is only the practised miner whose opinion should be trusted as to gossans (ferruginous quartz), not the theorists: they can know nothing about them. At some future day, I may be induced to write you a paper upon what may be deemed perfect and desirable gossans.

In a foregoing part of my letter, I have given your correspondent my ideas of the strata in which we, for the most part, find our metalilferous deposits, and shall content myself, in reply to his query, by saying that I have no reason for believing otherwise than that the clay slates, in the immediate neighbourhood of the granitic formation, are identical as to the constituent parts with those in which the rich course of ore in Crinnis was found, and if they differed a little, it would be very difficult to conceive that they could add to or diminish the ore in the metallic veins which they enclose. Your correspondent makes use of the following most unique paragraph. "When ore is depositing, nature is acting and *decomposing the adjoining rock, and liberally gives it ample room.*" Indeed! But then the rock which is undergoing this decomposition, is material,—it is palpable matter, nearly of equal bulk—not quite. How does he dispose of it? Where is it conveyed to? Oh! a thought strikes me—it is sent down, I dare say, to Mr. Franklin Coxworthy's central nucleus of fused metals,—where

> "Double, Double, toil and trouble,
> Fire burn and cauldron bubble."

and there would be room for it too, if his oxygen atmosphere really attracted such an infinite quantity of metallic matter from the centre to the earth's crust.

Your correspondent, in his letter of the 6th instant, remarks that he has seen assays poured from the assay pots, where the silicates were imperfectly fused, and he admits that they were not to perfection for profitable purposes. I should think not, and we "practicals" would not be likely to employ a man who would so deal with his assays a second time. If he sees another instance of it, let him tell the assayer he is not a "practical," and to give his sample more lime.

I shall now endeavour to convince Mr. Ennor that he has taken a most erroneous view of the depths at which tin mines have been found most productive; he is not, however, singular in this respect,—my much-lamented and highly-talented friend, Mr. W. Phillips, author of one of the best works on mineralogy now extant, laboured under such a mistake, but then he had not, like ourselves, the benefit of the experience of the last few years, which have tended to throw great light upon the question, and leave but small excuse for such a mistake at the present day.—I doubt not but your correspondent has seen many old tin mines open and barren, as he describes them; this I apprehend was much the case in some parts of the stanniferous district about St. Agnes and the northern districts of St. Austell, though both these parishes have also been celebrated for their deep, rich, and productive tin mines. Your correspondent has raised the question as to the number of rich and productive tin mines in the two counties, beyond the depth of 100 fathoms from the surface.—Now it matters not, I take it, for the sake of the argument, whether such mines

are rich now, or whether they were rich at any period antecedent to this. The question, I apprehend, simply resolves itself into this,—have there been twenty tin mines worked profitably beyond 100 fathoms deep, in the two counties? I answer, yes, and in the western division of Cornwall alone, in evidence of which I beg to give him the names and localities of some few now at work and paying, viz.:—

Balleswidden	St. Just
Levant (at present chiefly tin)	Ditto
Botallack (ditto)	Ditto
Boscadwell Downs	Ditto
Wheal Spearne Consols	Ditto
Wheal Owles	Ditto
St. Ive's Consols	St. Ive's
Wheal Margaret	Lelant
Providence Mines	Ditto
Wheal Reeth	Towednack
Reeth Consols	Ditto
Wheal Lewis	St. Erth
West Providence (chiefly tin)	Ditto
Great Work	Breage
Wheal Lovel	Wendron
Trumpet Consols	Ditto
Wheal Tremayne	Gwinear
Dolcoath (at present chiefly tin)	Camborne
Condurrow (half the produce tin)	Ditto
Cook's Kitchen	Illogan
Tin Croft	Ditto
Carn Brea (tin and copper)	Ditto, producing about forty tons of tin monthly.

I have thus enumerated twenty-two paying tin mines, and all within the western division of Cornwall. I might mention others, but they are sufficient to establish my argument, and I shall dismiss the subject with a few remarks. All the mines I have mentioned are more than 100 fathoms deep, many of them more than 200, and I may as well observe that so enormously rich was Wheal Vor, and wholly in tin beyond that depth, that they had a smithery 180 fathoms below the surface. Several of the mines which were formerly very productive of copper ore, are now in their deeper levels and shafts, and under the copper ore, passed and passing into tin-ground, a fact, which, if I rightly remember, your correspondent disputed, and I have great pleasure in adding that within the past week a most valuable discovery of tin has been made in the deepest part of the Dolcoath Mine, in the engine-shaft, about 250 fathoms from the surface, worth about £70 per fathom, taking the size of the shaft, 6 feet deep.

A word or two, and I conclude regarding copper lodes. That of Wheal Abraham was barely traceable at the adit level, about thirty fathoms deep, when its underlie was at an angle of 75°, merely making a perceptible division of the walls, and thus it continued to fifty fathoms under the adit, where its dip or declination was more vertical, and it began to make copper ore from the 100 to the 180 fathoms level. It was very productive, and exceedingly rich in the grey sulphuret of copper, from thence down to the 200-fathom level, where it failed; and at the 210-fathom level the lode passed into a good course of tin, which would richly reward a company for working, was the mine at present clear; and Binner Downs being on a continuance of the same lode, was very rich in copper ore, at one period, upwards of 200 fathoms from surface. I could materially add to the list in this respect, if time and space would allow.

It now remains for me to show that your correspondent is quite wrong, in supposing there are no copper mines in the two counties which have realized £10,000, at a distance of two miles from granite. I would refer him to Wheal Alfred and the Herland mines in Gwinear, formerly very profitable,—the former realizing upwards of £100,000, and the latter making very considerable returns; and the present Alfred Consols would in such case be also out of the pale. Wheal Towan, once a very valuable copper mine, I take to be beyond the stipulated distance; and I think Perran St. George and Wheal Leisure entitled to be classed with them, though your correspondent, I believe, insists upon a small patch of granite at Clegga. Wheal Jubilee, near Padstow, is very far removed from granite, but produced many thousand pounds worth of antimonial copper ore.—A Practical Miner: *Camborne, May* 12.

METALLIFEROUS VEINS—"THE MODEL CAPTAIN."

Sir,—Your correspondent, "Verax," reiterates the charge of Mr. Coxworthy, that I am not a practical man, and to use his own words, "that I am more accustomed to collecting matter to supply my pen than extracting mineral substances with the pick." Be it so; I have very little fear, notwithstanding, of being able, without difficulty, to "pick" to pieces their present theories upon the formation of metalliferous veins. But the first paragraph of "Verax's" letter of the 14th inst. leads me to suppose that he declines to join issue in a discussion on the subject through the columns of your Journal; and as I am free to confess that he is correct in his surmises as to my habit of collecting information from the experience and practice of others, much of which probably I should bring to bear against him, he might well be frightened at the booming of the first gun; but I dare say, from the eulogistic compliments he so liberally bestows on Mr. Evan Hopkins, he might bring that leviathan authority in mining matters to the rescue, and the services, in such case, of the inspector of a "legion" of mines (a number, by-the-bye, not well defined; Dr. Clarke, however, gives the maximum at 6000 and the minimum at 4200) could hardly fail of counting for something; for, judging from the letters of "Verax" and others, I should say that he is—

> "For mystic learning wondrous able,
> In magic, talisman, and cabal,
> Whose primitive tradition reaches
> As far as Adam's first green breeches;
> Deep sighted in intelligences,
> Ideas, atoms, influences,
> And much of *terra incognita*,
> The intelligible world could say."

Yet, like "Verax," he verifies my assertion that theorists, in their anxiety to carry out and establish their own rules, are too ready to leap to hasty conclusions, and outstep the bounds of probability and reason. I, however, repeat that I should be glad to see those extracts from his work on *Terrestrial Magnetism*, on which "Verax" relies so much, quoted in your Journal for the information of the mining world in general. If "Verax" will furnish the names of the mines out of the "legion," which it would appear his friend, Mr. Hopkins, has inspected, that would own to their having been benefitted by his inspection and advice, I should be ready to apply to them; but I could not for a moment entertain the idea of making an application upon such a subject to the mining public in the manner that "Verax" recommends.

I stated at the commencement of my letters on the subject of metalliferous veins that I referred to the two western counties only; I, therefore, decline, for the present, adverting to Staffordshire, North Wales, or Cumberland. But the statement of "Verax" regarding Wheal Vyvyan is fallacious and unfounded; in fact, I have frequently been underground there, and can affirm, without the fear of contradiction, that the tin and copper ore of Wheal Vyvyan was found in veins, varying from ½ in. to 2 ft. or more in width—that their declination was at an angle of about 60°, and that there have been courses of ore there 2 ft. wide for 10 fms. in length and upwards. It is true that the ore was intersected in all directions by granite veins of various widths, but the ore and tin were generally very clean, and distinct from the granite; and the veins were traced upwards of 500 fms., and the channel of veins, if I may so speak, varied in width from 20 to 30 ft. These facts would be borne out by the manager of that mine, of 12 years' standing; and "Verax" will not, therefore, in the present instance, venture to term the statement vague and contradictory, except inasmuch as it goes to contradict his own theory. Again, as to Wheal Music (now, I believe, known as Wheal Ellen), the copper was met with there in numerous small veins of native copper and rich ores, but not disseminated in the rocks, like mica. Nor was Carclase without her tin veins—Parnall's rich course of tin having been cut at a point where several veins joined or concentrated. The pipes of carbonas have always been seen with some vein or string connected with them. The nodules are not of this country, but chiefly confined to Tuscany. It is a mistake that the masses of ore in the Virtuous Lady is an instance of ore without a lode: the ore there made in a vein or slide, which may fairly be designated a lode, though it had an exceedingly flat underlie, or line of declination. In relation to the native copper found in the Lizard, I am not aware of any such cavern producing metal as "Verax" describes; it is, doubtless, found embedded in the serpentine rock, apart from the appearance of any vein. The presence of pure copper in such a situation serves in no way to assist our new lights, but the reverse: it is a riddle which, like some others, they are not likely soon to solve.

I have, in a previous paper, inadvertently disposed of the quibble which "Verax" has raised upon the stratified rock and granite, and I need only remind you that the phraseology of the Cornish miners, or at least with us "practicals," is such as I have made use of. We simply ask, with reference to the locality of a lode, what is the stratum—granite or killas (meaning, in the latter instance, clay-slate or schist)? "Verax" says copper *ores* are never productive in schistose rock. Why, is not the copper *ore* obtained from a schistose rock as productive of copper as any other of a like description?

In conclusion, I deny the charge of ambiguity which "Verax" makes against me. I confine myself to facts as I find them. If, like "Verax" and others, I talked about filling veins with the metalliferous ores from the strata, or from its declination, or its coincidence, or inclination with the strata in which they happen to be discovered, it might reasonably be set down for a mass of ambiguous absurdities, if I may use those terms, for there clearly is no definite place from which they could derive their material other than from Mr. Coxworthy's central nucleus—*such* a long way off.

And now a few words on Mr. Evan Hopkins's letter on the qualification of a practical man. I shall pass over a very considerable part of it, as being totally irrelevant to the question; for surely, although natives of the far west, we wanted not a legionist to tell us that the united efforts of a bricklayer, a mason, and carpenter might build a house, or construct a bridge, though they might not be sufficiently scientific to make a drawing, or give an original design; all these matters are well understood. The discovery of lodes through such accidental causes as he mentions are, however, I believe, very rare; but it is well known and admitted that amongst the thousands of miners of Cornwall, the class of men calculated to undertake the control and management of great mining undertakings are by no means numerous. It is utterly impossible, however, to gather from his letter what are his views as to the necessary attainments of a mine agent. I beg, therefore, to come to his assistance in this respect, and give him the qualifications requisite for

A MODEL CAPTAIN.

He should understand the nature and properties of mineral veins, giving more attention to the indications of the veins themselves than to the strata in which they are embodied, lest in paying too much attention to the shell they should, perchance, miss the kernel. He should possess a perfect knowledge of gossans, and should readily distinguish a ferruginous quartz from a ferruginous clay. He should be content, till he is better informed than he ever yet has been, to believe that the formation of mineral veins are contemporaneous with the great globe itself, and not allow himself to be imposed upon by the dogmas of delusive theorists. He should have a good knowledge of minerals in general, and be able, for the most part, to describe their nature and qualities at a glance. He should be able to assay and analyse such minerals. He should be a proficient surveyor and dialler, and be competent to lay down upon a plan kept for the purpose the diallings that are made from time to time, inasmuch as no mining operations can be relied upon without it. He should be so far a pickman as to be qualified to determine the price of a fathom of ground, or the quantity of ore a given extent of ground would be likely to yield, and its value, so as to hold the even hand of justice between the workmen and his employers, and to apportion a fair month's getting to a fair month's labour. He should be acquainted with the nature and quality of materials, and when to use and when to withhold them. He should be a good mechanic, and possess good engineering abilities. He should be thoroughly acquainted with the art of dressing the tin, copper, and other ores for the market, and of economising the *tin* when converted; and, withal, he should be, like myself,

Camborne, May 20. A Practical Miner.

THE FORMATION AND PRODUCTION OF METALLIC VEINS.

Sir,—"Am I not sitting in the same chair at 10 o'clock this morning that I sat in at 10 o'clock last night, and if the world went round should I not be upside down?" observed a "practical" reasoner to my father many years since; and just as short-sighted, I suspect, a "Practical Miner" will discover himself to be when he shall have made himself acquainted with those principles to which I refer the formation of metallic veins. So far as the premises were evident, the practical reasoner was correct, but he overlooked the fact that a globe can have no up and down in reference to its atmosphere, and 'tis just this atmosphere that bewilders a "Practical Miner."

As, however, your correspondent has not read my papers, nor those by Mr. John Lee Stevens, I readily acquit him of all intention of misrepresentation, and apologise for the construction I put on his first letter; and as I am under an obligation to him for the facts he has detailed, and which I have not only perused, but reperused, it is perhaps due to him that I should briefly detail the principles referred to, leaving it to him to apply his facts to the subversion of my deductions, that being obviously his business and not mine. The extent of the coal bed formation has not been clearly defined, but be it what it may, for every 27 tons of carbon deposited there must have been liberated 73 tons of oxygen; this oxygen has a specific gravity of 1·1111, and is highly electric, a fact or property admitted by Prof. Faraday. Electricity is identified with cold, and not with heat, and bodies in different electrical conditions attract each other; these, then, are the premises. I have *not* said that the cracks in the earth's crust were first made and then filled with "gaseous metal," but assumed that the operation of making the cracks and filling them was simultaneous, and that when the attraction was sufficiently strong to force up the metal in the gaseous form, that metal did not remain in the cracks, but reached the atmosphere. Masses of metal are frequently found on the earth's surface, and reference is made to such a mass by Mr. Mushet, in his interesting letter on meteoric stones, wherein he states that a mass of galena was found imbeded in moss *in the Forest of Dean*, and galena, it must be remembered, is a metal in combination with a base, a union, so far as chemical science teaches us, that takes place only under the influence of "heat."

This explanation, together with a perusal of No. VIII* on "Atmospheric Influences," will, I hope, acquit me of being "fanciful." It has been my most anxious desire, since what I conceive to be truth presented itself to my mind, to detect an error in my principles; and it in this a "Practical Miner" can assist me, I shall indeed be his debtor. Franklin Coxworthy,

Canterbury-place, Lambeth-road, May 26. Author of *Electrical Condition*.

Erratum.—In my letter of the 20th, for Desert of "Siberia" read "Sahara."

Mr. COXWORTHY'S THEORIES OF MINERAL VEINS.

Sir,—I would recommend your correspondent, Mr. Coxworthy, not to trouble himself about other people's ideas. All persons like to enjoy their own opinions as well as himself; therefore, he cannot expect the world to agree with his notions, nor with the manner in which he brings them forward.

Although his views respecting mineral veins evidently show that he has no idea whatever of their nature, I, nevertheless, think that, if he could only come forward as a reporter on new mining setts for certain parties, he would meet with encouragement, and stand a good chance of getting *tin* as long as he opposes the now established science of mining—*i. e.*, which maintains that the ores are dependent on the character of a certain variety of rocks, and their internal structure and angular joints, &c.

It would not be a bad spec for Mr. Coxworthy to apply to the secretary of the Mining Exchange, and take the "greensand formation" as the first field of enterprise for establishing his doctrines. Mining speculators are very fond of "*greens*;" and, as there are many "*cracks*" in such regions, it must lead to some grand discovery—perhaps copper, and a fine harvest of *tin*, and probably some of the yellow metal, which is not subject to be tarnished by an "oxygen period."

Such a "green frothy gossan," accompanied with "kindly promises" of something still better below, with other pleasing points and "patches," and various "philosophical coaxings," which the present system of mineral laws will not admit of, may not only cause a stir amongst a certain race, but probably lead to some important rich pockets, emanating from the London chalk, and thus be totally independent of Cornwall and Devon; and, perhaps, what would be still more satisfactory to your correspondent, upset the present theory of our scientific miners altogether, and make Nature to produce riches at all quarters at the will of man.—Verax: *May* 27.

THE DISCOVERING OF MINERAL DEPOSITS.

Sir,—It appears to me that some of your correspondents have arrived at the ultimatum of positive certainty in the discovery of the hidden treasures deposited beneath the crust of this little sphere of our's; but I have my doubts, that should their boasted knowledge be tested in the furnace of criticism and ocular demonstration, it would be found a delusive phantasm. The mastery of a few technical, mineralogical, and chemical terms, are not the necessary qualifications to make a practical miner, no more than the learning navigation, as taught in the schools, would qualify a pupil to navigate a ship round the world: he must submit to the drudgery of a second servitude on the wide expansive ocean to acquire a practical knowledge of the art; and before this is acquired no one would risk either vessel, cargo, or person, to his guidance and direction. If these philosophers would establish their reputation for superior knowledge by pointing out to us the rich mines which have been opened by their direction or recommendation, it would be well understood? In this age we must have something more substantial than mere assertions and glitter of words. Providence has very wisely limited the knowledge of mankind, and has contrived for him much better than he would have done for himself. If we could hit with certainty on the most select mineral deposits in any given district, we should, of course, avoid the inferior parts. The consequence would be a glut of the metal market, and the superabundant quantities would make it almost valueless. The price of any article will find its estimated value in the market just in proportion to the quantity required to supply consumption. If the supply is greater than the demand, it is evident that the superabundance must prove to the producer worse than useless. But, oh man! for all this, how gladly wouldst thou transmute the hills into brass, and the stones into iron. J. Daltomie.

Scotland, May 20.

THE CONSOLS AND UNITED MINES.

Sir,—All the notice I shall condescend to bestow on the ridiculous rodomontade of the Truro Vean double J. is, to hint that "the Jay will speak shortly." "R. S." must be ashamed of his imbecility and ignorance, and unite with me in advising him, when next his wandering brain is elevated up to "golden goblet" pitch, not to take a goose quill in hand while in so "cup"-ish a humour as he would appear to have been on the 19th, but rather keep his "Cuckoo notes" for his own amusement.—Argus (of Truro): *May* 26.

P.S.—I need not tell you there has been no "strife." There are no "foreign mines in the Court of Chancery winding up their accounts;" and knowing the three honourable gentleman of elevated standing in society" for upwards of 30 years, I may presume to answer for them—"Save me from such friends."

* Inserted in another column of this day's Journal.

THE REPORTS AND CONDUCT OF PRACTICAL MINERS.

Sir,—I trust your correspondent "S." (Liskeard), will in future adopt the principles of my friend Captain Puckey—viz., that of securing payment before inspecting and rendering his report; but when he does undertake such a task, let him do it honestly and to the best of his judgment, be it favourable or unfavourable; and however deficient, or humble, such an opinion may be, yet let him confine himself to the truth, and he will find in the end that "honesty is the best policy," even in mining. If mine captains would strictly adhere to this principle, jobbers could not so easily play upon and make improper tools of them. The uninitiated capitalist would likewise be less liable to be entrapped, and we should hear less of the numerous complaints that are now made by mining speculators.

As an example and caution to others, it would be well to expose those (with their names in full) who have not hitherto paid for such inspections, because they could not obtain favourable reports to suit their jobbing purposes, in all papers connected with mining, so that distant capitalists might know and be wary of them.—Evan Hopkins: *Austinfriars, May* 26.

PROMISING MINE REPORTS.

Sir,—I observed in your useful Journal of last week some remarks on "kindly and promising" mine reports, by a correspondent signed "S." I understand the intended meaning of the terms "kindly" and "promising" well enough, and can see no objection whatever to the use of such terms, *when correctly applied*; but when hundreds of such reports are daily brought before the public, on mines which are well known to many of us as valueless, and only taken up to be reworked for the purpose of gambling, and knowing the facilities with which they can be procured, not only from common miners, but even from persons who assume a higher position, it is incumbent that we should be very careful in the outlay of our money. I do not see the slightest chance of such abuses being corrected by means of the Mining Exchange, inasmuch as it is a well-known fact to myself, as well as to many of my friends, that several of those mines which appear in the official list of the Mining Exchange have been the means of extracting a vast amount more of the coined metal from the pockets of the adventures than mineral produced, the only gainers being the brokers, jobbers, and their obedient "kindly friends," who are employed to supply such reports according to the instructions given. One of my friends, the other evening, received a communication from a certain party, connected with the Mining Exchange, who had lately made a grand discovery, which was about being developed by a complete staff of officers, a London manager, a superintendent, a conductor of mining operations, inspector-general, and a set, doubtless, of "kindly captains"—in fact, the speculation was too good to be lost, and my friend, having lost in all the other mining affairs of the same party, was told that he would not only recover all in this, but make his fortune in the bargain. Neither the precious bait, nor being a member of the Mining Exchange, had any effect.

I am, however, happy to observe that such representations are beginning to find their own level, as people are now, owing to that best of schools, experience, demanding a clear and intelligible report from those who hold their reputation sacred, and are not alone satisfied with a favourable report, but must find out whether the conditions are reasonable; and further, that the speculation is not merely a jobber's or broker's, but a *bonâ fide* mining speculation, worth working. I am glad to find that your correspondent, Mr. Hopkins, will not allow his name to be improperly made use of, and that he continues to show a determination to act with the same spirit that has hitherto guided his conduct. There is now a large capital for investment, but, in consequence of the abuses daily observed in mining, and of the private movements of those very brokers who make a pretence of acting justly, a want of confidence is universally felt. Even good reports are no longer of any value, if high premiums are demanded. It is paying too dear for the whistle—giving 25s. for a sovereign; however good the latter may be as a sovereign, no one likes to pay 5s. extra for it. Let us hope, Sir, that your practical and independent correspondents will continue to enlighten us, and render us able to take care of ourselves, and not be as hitherto—mere simpletons to jobbers. R. S. T.

Liverpool, May 20.

YE MININGE EXCHANGE OFFCIALLE SHARE LISTE.

Ye humble petition of Bodmin Wheal Mary Consols, showeth—That certaine wise men in ye East, learned, and acute in ye knowledge of mineralle productes of ye Garden of Danmonie, or as is nowe called Cornwallia, or Cornwall, finding manie "weedes" therein, said verilie we will make unto ourselves a garden, and plante therein none but mines of goodlie grouthe, or fruitfulle; and with rapid "stride" they hedge and fence theire grounde, and doe forthwith declare to ye renowned Journalle of Mines, that ye liste of ye mines planted by them, is ye true and faithfulle Officialle Liste of ye Mininge Exchange committee, and ye public are informed that ye Mininge Exchange committee doe make knowne unto them ye "real" value of ye shares in ye said mines, planted in ye garden of ye Mininge Exchange, and that ye necessarie enquiries have been made "on ye principle of weeding ye garden or market of mines." Nowe your humble petition is welle knowne as no "weede," but a goodlie fruitfulle tree, grafted by a newe companie, in ye monthe of October last, which bore fruite verie earlie, yea and sampled too in ye month of March; and that nowe againe she has bourne double ye fruite in ye last two monthes, as will be seen in ye accounte in youre renowned Journalle of ye ores to be solde; and further that your petitioner will neere unto double ye samplinge in ye next two monthes. Therefore, your petitioner prayeth that newe gardeners be engaged who shall knowe ye goode mines, and not "weede out" from ye Mininge Exchange garden, but plante therein ye mines which bear fruite.

THE "DIVINING ROD."

Sir,—The remarks on the "divining rod" I notice in your last Journal remind me of a very ridiculous circumstance which occurred in my presence several years ago. I travelled on board a steamer, on Lake Ontario, with a gentleman who pretended to be possessed of the occult art of finding ores by the use of this rod, and as I was somewhat sceptical then, as I have always been, of the existence of any such latent virtue or property in any one, and expressed it at the time, he offered to give me, if possible, a proof that he possessed it at the first place we landed. Accordingly, when the steamer stopped to take in wood, which she did soon after, we both landed, and he proceeded to cut a forked stick out of a hedge of the proper size for a "divining rod," and balancing it in his hands, according to the prescribed rule, walked up and down very majestically, without any effect, however, until it occurred to me to ask whether the supposed virtue in him, by means of the rod, extended to the indication of manufactured metal as well as crude ore. He replied that it did. I then observed that, if so, he would feel the influence on the rod by approaching with it in his hands in the position of my silver-mounted spectacles, which, seemingly, in their Russian leather case, I threw upon the ground, first, however, unobserved by him, abstracting the spectacles. He returned upon his ground, and again repassing over it found, as he stated, that the rod was violently affected as he approached the spot where the spectacle case was lying, and eventually, when he came over it, the rod, in spite of all he could do to prevent it, assumed a reversed position and pointed its arrow head or fork downwards. I picked up the empty case, slyly remarking that the virtue in him appeared not to be confined to the discovery of ores or metal. He very good-naturedly joined in the laugh, but never again attempted to persuade me he was a diviner.

When the site of Fort Henry, near Kingston, in Upper Canada (as it was called before the union), was about to be fixed on, a procession, consisting of the Duke of Richmond and his staff, headed by the fort major, who pretended to be possessed of this virtue, perambulated the ground; after many turnings, and windings, they came to a spot where the rod, in the hands of the major, seemed to indicate water (for it appears that it loves water as well as ore) Here, accordingly, a well was sunk on a tough greenstone, and at the depth of about 75 feet *a bucket of water was obtained*. A. A.

Old Kent-road, May 26.

APPROXIMATION OF MINERAL DEPOSITS TO GRANITE.

Sir,—If, instead of examining, we conjecture and interpret supposed facts, we are very likely to come to erroneous conclusions and wrong deductions, but physical philosophy, on the other hand, when based upon science, doubts and distinguishes between that which is merely probable, and strives incessantly to perfect theory by extending the circle of observation, and seeks to discover the main and medium point around which to oscillate. Numerous attempts have been made to form a rational conception of the silent workings of Nature in her subterraneous laboratory. The present expansion and physical upheavings of the philosophic minds, big with expectation to discover Nature's preference of stratum where she delights in lodging her mineral product, and to detect her in her secret operations, is one of the *signs* of the times. In bygone days the alchymists were stretching their expectations, and glowing with ardour at the prospect of making the grand discovery of performing Nature's part in the production of minerals. Though they were foiled in their attempts, yet one of the most useful science, chemistry, principally resulted from their labours; and should not our geologists arrive at the consummation they aim at, it is more than probable that their ardent researches will be rewarded with some new acquisition to geological science. It appears tolerably certain that copper deposits are more strongly developed in the vicinity of granite hills, and near its junction with killas or clay-slate, than in any other situation; therefore I should be obliged to some of your correspondents if they would give me, through the medium of your talented Journal, a descriptive summary of the approximation of the most productive mines in Cornwall and Devon to the granite, also the distance of the principal lead mines from the granite, and the strata in which they are situated, and whether quarries being in close approximation with lodes are considered favourable or otherwise. W. M. Craigton.

Scotland, May 27.

THE ASTURIAN MINING COMPANY.

SIR,—My attention has been called to a letter of the "Idler in the Asturias," which appeated in your very interesting Journal of the 24th inst. The "Idler in the Asturias" having mentioned the name of my father, I must say that the Baron Morat, having in his power all the correspondence concerning the formation of the Asturian Mining Company, and possessing numerous documents on the whole subject, has been very often solicited to allow them to be printed; and, although he would have been, to a certain extent, justified in doing so, his claims having not yet been satisfied, he refused to add to the difficulties of that company in interfering in the battle, especially when the Asturian Mining Company was before the Chancery Court. My father thinks that between passengers in the same boat an *inviolable* contract obliges them, when the gale comes on, to assist themselves as well as they can, and not destroy the vessel; and that if one has been happy enough to reach the land by swimming, instead of discovering to the pilot the faults of the captain and of the crew, and of complaining of the loss of his luggage, he is bound to hinder, if he can, the total shipwreck. So, in all that voluminous correspondence in your Journal, anonymous or not, the Baron Morat seeing nothing but angry feelings, and not a sound and business-like discussion, he has been silent, and will be so for the present. Moreover, when the day comes that the matter will be considered with propriety and politeness, and the real services of such intelligent men as Messrs. Amory and Gillan, and many others on both sides, weighed at their real value, instead of making them liable for *inevitable* faults, the Baron Morat, if consulted, will show what can be done for the benefit of the Asturian Mines; but he is by no means impatient to again come forward: he quietly waits the day of *coolness* and *thought*, and his interest in mines in France takes too much of his time for losing it, without a positive conviction of being really useful to the Asturian Mining Company.—ALFRED DE MORAT: *Chateau de Rulos (Bretagne), May* 27.

LEGITIMATE MINING AND WHEAL ZION.

SIR,—My object in bringing these remarks before the public is to support legitimate mining. Man, with apparent ease, can measure the orbs of celestial worlds, but it is with difficulty he can penetrate the veil which envelopes the structure of his own globe. Stern necessity compels him to attempt it, he being dependent on its interior sources; then it becomes his duty to add his mite to its support. It is the beginning or origin of all the world's commerce: without its aid the mighty mechanical works now exhibiting would never have gratified the eyes of the millions. The miner, when passing amidst those handy works, may justly allow a thought to rise within, that he is the beginner and founder of it all. He is a thinking man, and boldly encounters the great mammoth of Nature, regardless of her mighty speed. His intellectual skill guides him in making subterraneous passages into her sides far beyond the rays of light, where he intersects her veins, and brings forth her riches, which have been generating from her heart's blood for ages, for the mechanic to fabricate his beautiful works of art. He shows the world what is the fruits of legitimate mining. To carry it out is not an ordinary undertaking. Energy and skill is required, with practice and science combined, aided by a large amount of capital. To accomplish this stupendous work, well-digested plans should be laid down before they attempt to draw the capitalists to their aid, without which it cannot be legitimate mining.

The promoters of those undertakings cannot be too explicit. Strict scrutiny would be their shield, they having made it a public speculation. Then let them endeavour to convince their employers, and the public at large, that what they have held out is grounded on facts, and open to the scrutiny of every looker on—showing, from certain indications, they had reasonable grounds to suppose they could intersect her leading *veins* in such a bounteous place, as to enable them to bring forth her resources in sufficient quantity, within the short space of six months, to keep up the supply for these endless works of art to the extent of Devon Great Consols; it would then be legitimate mining. If what they state are facts, what have they to fear? Nothing. They should have prided themselves in answering every straightforward question; it would have convinced the public of their knowledge and integrity. It may be a fair speculation, but the public should keep a watchful eye on them, and not feel satisfied with less than a thousand tons of copper brought to the surface during the month of November next. I will touch but lightly on what I conceive is not legitimate mining for the present.

Turning to Wheal Zion—here is a mine brought out under a new name by parties who are ready to *dispose of every share*. It is said to possess such favourable indications, as to warrant her resources in six months becoming equal to the first mine in the kingdom; but the parties engaged, or who are inclined to do so, nor their agent, must not, nor dare not, question them as to the correctness of their report. They say, "Rather than you shall sift us, we will manage to pay you back your cash." There is at most times a something about those changes of names that old miners look suspicious at. Is this mine what was formerly called Slimefur, or Wheal Moorsead? If so, it was worked about 30 years since, and abandoned by the Messrs. Williams and Co.—men then, and are still, well versed in mining, and know lead and copper. But we are told that a nodule of granite has come up within the last few years, and has acted as a hot bed; and new lodes, abounding with copper, are making their appearance, just as mushrooms do on a misty morning; in fact, it is becoming all lodes, and Devon Great Consols is only a mile and a quarter from it. Who will not venture in Wheal Zion with the lucky men who have hit on this magic spot? What will my igneous friends say to this new formation of granite producing lodes spontaneous?—N. ENNOR: *Wivelscombe, May* 27.

P.S.—I am obliged to "Fair Play" for his remarks on Great Crinnis; those things are at all times acceptable.

TO CAPT. VIVIAN—WHEAL ZION.

SIR,—A friend has sent me one of your prospectuses, wishing for my opinion as to its situation, and having resided for a number of years in the parish, and worked in nearly every mine in the district, I was really puzzled on looking it over, as to the mine it referred to; I came to the conclusion, however, that it was either what was formerly called *Slimefur*, or *Wheal Moorsead*. In either case I could not recognise granite to be near the wall of any lode there, neither could I recollect any stratum likely to let out the water on any adjoining mine; perhaps it may be some more recent one worked on the same lode, that I know nothing of. If your prospectus is all correct, you have certainly a splendid thing; if not, *six months* will soon *end*, when the *promised dividend* will be looked for. At any rate, I should feel obliged by your giving me the particulars as to which mine it is, and where the granite is; does it make its appearance at the surface, and what mine will draw off your water; whether they are mines on the east and west lodes, or on north and south ones? It is certainly very singular; if you have two such extra large lodes so near each other, I should almost doubt their being regular lodes. I thought it better to write you for information than parties in London. It is not unlikely I shall come to see it shortly.—N. ENNOR.

TO CAPT. N. ENNOR.

SIR,—This morning your singular letter was put into my hands by Capt. Vivian. As the purser of this mine, and a large shareholder, I take upon me to answer you according to the merits of your communications and enquiries. In the first place, I am not surprised at your being "puzzled" in comprehending what is neither your interest nor your business to know, which must be evident to all who know you, and read your letters. I cannot conceive what reason you can have to question the correctness of our prospectus. I do assure you, Sir, *our* business is not to *deceive*. When you can show me your rightful authority to propound queries for the agents of this mine, I will gladly and cheerfully respond: till then, we respectfully decline to do do. You are at full liberty to write what, and to whom you please in London, and you have our consent to pursue what course your fancy may suggest in arriving at such facts as do not appear at present in your possession. If your friend is dissatisfied, by addressing me at Acacia-place, St. John's Wood, London, he may find a purchaser of his interest at the present market price.—H. C. VIVIAN.

ST. GEORGE AND THE—GRANITE.

SIR,—I am greatly obliged to my friend, Capt. Pill, for his granite mixture in your last. His pills are easy to swallow and comfortable to digest. He does me wrong, though, by asserting that I am "uncharitable, inconsiderate, and unbelieving;" all I want is *to be convinced*. I have plainly stated that practical results must overset hypothetical theories, and that he can tell, and show in depth, whether any and what amount of copper ore has been risen *in the granite* at Great St. George, or how near to it. I must refer to my letter of 24th March, and contend that it has not received an answer. I still have a very strong impression on my mind, that what I maintain are the elvan courses he considers a granite—"not the common micaceous, but mixed with hornblende, &c.;" therefore, as "seeing is believing," I will accept his invite at the earliest opportunity I may have. The result will be one of us may be *proved* wrong, and I have no objection to be that one; we have known each other some time, and are moulded in that happy sort of human temperament not likely to let difference of opinion divide friendship.

I was not till now aware that he was another of our Opie's, but his vivid description of female beauty, so graphically depicting the "relative distance of features," &c., is so artistical, that I trust his next essay will be as a sculptor—a second Praxiteles; he could then chisel out the "relative features" from the largest piece of St. George granite that he can raise; and by affixing the bust upon Clegga Point, St. George and the granite would then be as immortalised as St. George and the Dragon.

Will Captain Pill attempt to prove that it was copper, and not tin, that was rose at Clegga long, long ago? Was it on the same lodes as the "hundred tons from north underlaying lodes in the granite?" Will he more fully describe the hornblende he speaks of—state colour &c.? I go back 40 years, and positively state that the late and highly-talented Mr. Williams, of Scorrier, embarked his capital and mining judgment in Great St. George without the slightest reference to the little granite patch at Clegga; he moreover extended his mining adventures as far from the granite as any man, in all other strata, and by so doing he made his riches. Mr. Humphries, an old acquaintance of mine, purchased the St. George sett, for the English Mining Association, without the granite offering him the least inducement; he sought for copper ore in the slate formation, and there alone he found it—amply rewarding himself and his co-adventurers. I do not think the spirited company of gentlemen in the Isle of Wight found their way there by any granite direction post. They will continue to have my very best wishes—now that their western workings are approaching towards Clegga—that the change of strata may multiply their profits tenfold.

Having intimately known Capt. Oates for 34 years, and accompanied him through "Wheal Music, Charlotte, and Leisure," during which I never saw a rock of granite in either, and doubt there being one at the present moment from any of the underground workings, I safely repeat that his notice of these localities was not drawn from any assumed locality of the granite formation. All these mines I consider "*distant* from any granite range," although Captain Pill says "Music is situate not far from the granite." Does he stretch south to Redruth, or wade into the sea north to dive after it?

I must beg to correct an error of Capt. Pill's, and set that point right with my other friends. I have never stated "that the neighbourhood of granite was deserving of little or no notice"—for instance, Tresavean, Carn Brea, North and South Basset, Frances, and scores of others, with which I am well acquainted. I cordially unite with him in expressing my conviction that there are *hopping* around many of the scions of absurdity and pretensions, vainly endeavouring to spread abroad their theoretical notions, which only tend to mystify, and do no sort of good; as yet it has never been their lot to point out a prize of any sort; in fact, the best mines have never had occasion to ask their opinion, and it is only the mushrooms that need their temporary assistance to raise them up into a little notice, to wither away in the winter, and be no more heard of. Wishing Capt. Pill a continuance of prosperity, I am,

May 28. ARGUS (of Truro).

THE MINING EXCHANGE.

SIR,—If we are to believe the statements of your contemporary and his correspondent, the Mining Exchange is a nucleus formed for the exhibition of all that is dishonest, imbecile, and exclusive. It is a society instituted for the advancement of the interests of a privileged few, and not for the better regulation of mining transactions, and the correction of abuses which have too long existed. Though I do not wholly approve of the rules and regulations of the Mining Exchange Committee, I could but feel indignant, as every right-minded man must feel, at the absurd and abusive letter which this week appears under the signature of "A Looker On." Whoever the writer may be, he evidently mistakes abuse for argument, and thinks, by indulging in a species of desperate ridicule, to injure a respectable body of men, as undeserving of his vituperative vein, as he himself is of other than the profoundest contempt. His letter is evidently written in a spirit of disappointment and frustrated efforts, and feeling his want of respectability to give him claim to mingle among men whose sense of decorum and courtesy is not wholly defunct, is determined to be amused by bespattering an honourable body with as much slime and acumen as his ingenuity can devise. Mr. Editor, there is a class of men in the world by whom the ancient adage, "The curse of writing is an endless itch," is almost daily verified, and who will indite the grossest insults to decency and common sense rather than forego their delectable pastime. Of this class is "A Looker On." He aims at being a Hercules in the corrupt stable of St. Michael's-alley, but his besom is so clogged with the filth of his own lair, it is incompetent to perfect what he devoutly thinks a most desirable consummation.

As I observed, I do not agree with all the rules and regulations of the Mining Exchange; still I think them a "step in the right direction," as tending to establish a stronger confidence in the mining world than has hitherto existed. A wholesome check to doubtful adventures, and no less doubtful men, has long been wanted; and stringent and exclusive as the rules of the committee are, we can overlook their faults, when we know that rigid spirit will effect benefit; and as they correct abuses, we must not marvel at the acumen of such men as "Mr. Looker On" whilst the broom of reform is in active operation.

I am in no way connected with the Mining Exchange. I have the interest of mining, legitimate mining, at heart, and I believe the object of the gentlemen forming the committee to be its welfare and advancement: they are men of known honour and probity, and I cannot sit tamely by and hear their honest endeavours to check equivocal dealings, and ensure the public against worthless schemes, branded as imbecile efforts and partial indulgence. I am sure, Mr. Editor, there is not a man to whom the committee of the Mining Exchange is known but feel that the interests of the mining world are safe in its keeping, and that no personal feelings will divert them from the duties they have determined upon, of justice to "One and All." It is difficult to establish a system pure in all its extensive ramifications at the onset. Time, experience, and collective judgment will correct many faults and give a more solid basis to the structure; and I think if such men as "A Looker On" would suggest improvements, instead of inflicting abuse, they would give evidence of more honesty and decency than they now exhibit. I do not fear that the character of the committee will be injured one tittle by such virulent attacks. There is an honesty of purpose about it which will defy aspersion; and whilst it continues its honourable career, my support shall not be wanting to aid its efforts to eradicate abuse.—CATO: *May* 30.

THE OLD BRIMPTS TIN MINE.

SIR,—In a trip to Dartmoor, on Thursday last, which took me near the Old Brimpts Tin Mine, I thought it worth while, being so near, to look over the sett, of which a good deal has been lately said. I found there were six heads of stamps to work upon some capital tinstuff broken from the north lode, which I afterwards found to be exceedingly rich in the present level, and still continuing in the shaft, now being sunk on the lode. The leader of tin is fully 9 in. wide, and part of this leader I have carefully tried, and found it to produce 89 per cent. of clean black tin. I was informed by a miner at work on the lode, that the average of the whole leader is equal to the stone I had broken off. The lode runs east and west through a beautiful soft decomposed granite, and should it continue to improve in depth, as it appears to do in the shaft, there can be little doubt of its becoming one of the richest tin mines in the county. The Old Brimpts lode is not being worked to any extent at present, but a water-wheel is erected, and everything in course for clearing the water in the old men's workings, which, judging from what can be seen on the surface, are most extensive. Some tons of tin were nearly clean and fit for market, and, considering the small expenditure which has taken place, with the present and future prospects of the mine, it speaks most highly for the management of all those who are concerned in it.—VIATOR: *Ashburton, May* 27.

THE STANAGWYN MINE.

SIR,—I find my name mentioned in your Journal in connection with this mine, and I beg most positively to refute the statement made in the paragraph. I have been for a short time staying in Cornwall for my own self-instruction, and could not, of course, be expected to have any sound knowledge of its mining geology. The only part true in the report is that, in common with many other people of the spot, I went out of curiosity underground at Stanagwyn; and I might have picked a few stones up as specimens for my collection, but certainly not with the intention to hand them over to Mr. Henwood for his opinion on them.—E. BODEMER: *London, May* 30.

MINING NOTABILIA.

GREAT WHEAL TONKIN.—The sett proposed to be worked by this company is stated to be very extensive, containing a number of lodes, producing copper, tin, and silver-lead ores of much value. It is situate on the south-west declivity of Kit Hill, in the immediate neighbourhood of the Callington district, of valuable and productive mines; and some of them have been worked to great advantage in adjoining productive mines. One of the copper lodes, at 3 fms. from the surface, is from 5 to 6 ft. wide, producing rich black, grey, and yellow ore; and a second, 6 feet wide, promises tin of excellent quality. There are other promising lodes in the sett, and from reports, by Capts. Spargo, Seymour, and Rippon, it appears it extends 600 fathoms on the course of the lodes; and, from the congenial nature of the strata and mineral character of the lodes, we have no hesitation in strongly recommending the adventure to capitalists as one of great promise,—while the high character of the trustees is a guarantee of the *bonâ fide* nature of the undertaking. It is divided into 6000 shares, at 2*l.* per share, with a deposit of 1*l.*; and, should more be required, which is not expected, the remainder to be paid in calls of 5*s.* on one month's notice.

PEMBROKE AND EAST CRINNIS CONSOLIDATED MINES.—These setts are contiguous to, and lie between, Great Crinnis and Par Consols Mines, and held at dues of 1-24th and 1-16th respectively. The shipping quay, erected by the late Mr. Treffry, is only half a mile from the principal shaft, and a tram-road may be laid down at a trifling cost, by which the carriage of the ore may be facilitated and greatly economised. In a report by Captain Rickard, he states that the advantages in the mines are great, and by costeaning, several promising lodes have been discovered both north and south of the Great Crinnis lode, which have never been wrought upon. A shaft has been sunk 90 fms., and a level driven 50 fms., on a lode said to be 10 to 18 ft. wide, containing stuff producing 10 tons to 100 kibbles. He states, not only as his own opinion, but that of all practical mine agents in the county, that with economy and judicious management these mines will take their stand among the best in Cornwall.

WHEAL ANNA CONSOLS.—In another column will be seen an advertisement for putting the mines comprised in these setts to work. Captain Puckey, of Fowey Consols, Par Consols, &c., reports highly of them, and is to superintend the operations. The amount required, including the cost of steam-engine, and all surface machinery, is but small, and the prospects, backed by an authority of such admitted weight as Capt. Puckey, most encouraging, and under his management offers the best chances of being realised. The stuff already on the surface alone is calculated to employ the seven sets of stamps now at work, probably for the next 50 years, and to give 6 per cent profit per annum on the capital likely to be required.

THE GREAT TREVEDDOE AND CABILLA TIN AND COPPER MINES are now before the public, according to a prospectus under our notice, in 1200 shares, of 6*l.* 10*s.* each, to be managed by a financial committee of shareholders in London, in strict accordance with the Cost-book Principle, and conformable to the Stannary Laws. The sett comprises several large lodes, one of which is 20 ft. wide, that have been productive of tin, and are said, after yielding 7000*l.* worth, to have ceased working, from not having any means at hand to drain the water. Three large water-wheels and stamping mills are working 40 heads, with a fall of water nearly 200 feet. The levels are well ventilated, and in good condition. Two copper lodes have been partially explored, and about 1400*l.* of ore sold therefrom only 30 fms. from surface. An estimate has been made, that from 3000*l.* to 5000*l.* will be ample capital to bring the mines into productive working: 800 of the shares are offered to the public at 6*l.* 10*s.*, of which 5*l.* will be applied to the working capital.

TRENAULT SLATE QUARRIES COMPANY.—These quarries, situate at Trewen, near Launceston, Cornwall, have been hitherto worked to only a limited extent by the proprietor of an adjoining property, since deceased; they have now fallen into other hands, and the present owners invite capitalists to join them to work the quarries on an extensive scale, which the requirements of the locality fully warrant. From the prospectus, we find there are no other lime-works within a distance of 14 miles, and these saddled with a dead rental of 400*l.* per annum; while the Trenault is only liable for a royalty of one penny per bushel on the lime sold, with a nominal rent to insure proper working, which merges in the royalty. With the present machinery and works, the company can return 100,000 bushels of lime per annum, giving a profit of 2500*l.*, equal to 40 per cent. on the money invested; and the demand as manure and for building purposes would justify a large increase by the erection of additional machinery. The capital is 6000 shares, at one guinea per share, and the affairs will be conducted under the Cost-book System.

MACCLESFIELD COPPER MINE.—The adit, driving under the direction of Capt. Seccombe, of the Phœnix Mine, will intersect the new lode 25 fms. below the point from which fine stones of ore and gossan have been broken. The ground is easy for driving, and holds out favourable indications for mineral; while from the prospects presented, a good course of ore may be anticipated on cutting the lode in this level.

Wheal Vincent expects to make another small sale of tin in about a fortnight. This mine is now divided into 3000 shares, of which 1000 are offered to the public at 2*l.* each. When this operation is completed, it is intended immediately to erect a steam-engine to fully develope the lodes at the 20 fm. and deeper levels.

WHEAL EDWARD (copper and silver-lead) is situate in Calstock, and about five miles from Tavistock—is in the vicinity of many productive and dividend-paying mines, and is bounded on all sides by rich and promising setts, among which are—Devon Great Consols, Bedford United, Calstock United, Hawk-moor, Wheal Russell, Gunnis Lake, Wheal Arthur, Heigaston Downs, Wheal Zion, and Drake Walls Tin and Copper Mines, and the Tamar Silver-Lead Mines. The sett is held under a lease for 21 years, at 1-15th dues, and is of considerable extent, being one mile and a half east and west on the run of the lodes, and three-quarters of a mile north and south. This property is mineralized throughout, and in which are nine copper and three lead lodes. Several of the copper lodes have been opened on, and found to be large, composed of rich gossan, mundic, capel, and stones of black, grey, and yellow ore, and giving every indication of there being a deposit of copper ore. The lead lodes produce fine gossan, peach, prian, flookan, and stones of rich silver-lead, and there appears little doubt that they will prove rich for silver-lead. These lodes are a continuation of the north and south lodes of the Tamar Mines, which are returning many hundreds of tons of silver-lead ore. A steam-engine is proposed to be erected, for the mine to be worked with spirit by a new company of adventurers. An adit has been brought up within 50 fathoms, that will drain the mine 60 fathoms deep.

WEST CALLINGTON MINING COMPANY.—This mine was formerly worked at different periods as Wheal Elizabeth, and as Comblawn. Under the former name it was in the possession of a private individual, who raised by very rude means, from a shallow level, considerable quantities of silver-lead ores. As Comblawn, nearly 5000*l.* has been expended on it; a new shaft has been sunk 22 fms., the old engine-shaft cleared up, and an engine erected capable of carrying the mine down from 100 to 150 fms., in the progress of which work five silver-lead lodes have already been discovered. The mine is divided into 5000 shares of 1*l.* each, out of which it is stipulated to pay the proprietors 1900*l.* in cash, and 800*l.* in shares, making 2700*l.*, the cost of the machinery, flat-rods, and buildings complete; the remaining 2300*l.* being considered amply sufficient to bring the mine into a productive state, as with the efficient engine on the mine it can be put into a complete working condition in about a month. In a report by Mr. Arthur Dean, he enters fully into the geological character of the strata, the work done, the appearances of the several lodes, the nature of the mechanical erections already on the mine; and expresses his opinion that, in carrying out his various recommendations, there is no doubt but West Callington will prove a profitable adventure.

WHEAL RUTH (TIN).—This sett is situated at Sheepstor, Devon, divided into 5000 shares, of which 2700 are offered to the public at 3*l.* per share; it extends two miles on the course of the lodes, and two miles in width, and is held under a lease of 21 years, at 1-20th dues. Within its boundaries are comprised a number of lodes, nearly all productive of tin, and the ore hitherto raised in this mine has proved a most superior quality grain tin, realising 15*l.* per ton more than the generality of mines. A deep adit, 30 fathoms from surface, has been driven 600 fms. on the course of the lodes, and several thousand pounds have been expended in driving, sinking, cross-cutting, and erecting the necessary buildings and machinery. In a report by Mr. Jehu Hitchins, he advises the active prosecution of the eastern part of the sett, where pumping and other power is available. From the large amount of ancient workings in the form of burrows, and the rich stones of tin still found in the great quantities of attle left, it is his opinion, as also that of numerous experienced agents who have inspected the mine, that the prospects are highly promising, and that, with judicious working, large returns will be made on the capital expended.

The Tynwald Mining Company, Isle of Man, which has obtained a grant of a district in Marown and Braddan from Government, is prosecuting operations with great spirit. At Laxey Mines an immense water-wheel, 82 ft. in diameter, is about being erected, to assist in driving a pump for the purpose of keeping the mine clear of water.

A Compendium of British Mining.

BY J. Y. WATSON, ESQ., F.G.S.

SOUTH WHEAL BASSET TIN AND COPPER MINE,

IN THE PARISH OF ILLOGAN.

This sett is in extent 600 fms. long and 600 fms. wide, and held on lease from Lady Basset for 21 years, from the 10th January, 1832,* at 1-15th dues. Divided into 256 shares; amount paid up, 10*l.* 5*s.*; market value, 400*l.* Purser and manager, William Richards, Esq., Redruth; principal agent, Capt. James Pope; day and night agents, James Middleton and James Juliffe, jun.; clerk and storekeeper, Thomas Richards. The present company commenced operations in January, 1832; and the ores returned to 1848 were—

Copper ores	*Tons* 35,652	5	2	0	.....	yielding in money,	£223,264	10 3
Tin ores	43	4	0	6	.....	" "	1,119	7 5
Tinstuff	—				.....	" "	462	7 11
Total returns to 1848							£225,646	5 7

From 30th June, 1848, to 30th June, 1849, the returns in copper were 2552 tons, realising 16,335*l.* 17*s.*; from 30th June, 1849, to 30th June, 1850, 3813 tons, yielding 27,223*l.* 4*s.* The dividends of profit paid to the shareholders to the end of December, 1848, have been 32,000*l.*, or 125*l.* per share. The machinery consists of two steam-pumping engines, two other engines for whim drawing, stamping, and crushing. The persons employed are above 300.

In twelve months, ending 1849, the dividends were 25*l.* per share, or	£6,400	0	0
In 1850, 55*l.* per share	14,080	0	0
In 1851, to present time, 20*l.* per share	5,120	0	0
Total dividends	£87,600	0	0

The mine is situated in one of the richest districts of Cornwall—in the immediate vicinity of Carn Brea, South Frances, North Pool, West Buller, and other prosperous mines. Some of the ore is very rich, and the bulk realises a price above the average of the county. The prospects at the present time are very good, and the mine one of the best in Cornwall. A part of the sett, now called East Basset, has been formed into a distinct company, and 10*l.* per 256th share called for.

* Since this was written a new lease has been obtained.

MINING APPOINTMENTS DURING JUNE.

2. Trelusback account.
3. South Basset account, on the mine; West Wheal Jewel meeting. [sampling.
4. South Tolgus and Trefusis account, on the mine; Devon Consols and other mines'
5. Ticketing at Camborne—Tincroft, Seton, and other mines; Derwent meeting.
6. Pay at South Basset, Carn Brea, East Pool; Halamanning & Croft Gothal meeting.
7. Pay at Perran St. George, Trannack and Bosence, Devon Consols, Par Consols, Dolcoath, Stray Park, West Jewel, and Botallack.
9. Wheal Seton account, on the mine.
10. Tywarnhayle account, on the mine.—11. United and other mines sampling.
12. Ticketing at Redruth—Carn Brea and other mines. [mens pay.
13. Stray Park account, on the mines; North Pool setting; West Caradon and Gonamming the
14. Pay at United, Alfred Consols, West Treasury, Cook's Kitchen, East Crofty, Phœnix,
16. Condurrow account, on the mine. [Wheal Adams.
17. East Pool and Tywarnhayle accounts, on the mine.
18. North Roskear and other mines sampling.
19. Ticketing at Redruth—Devon Consols and other mines.
20. Pay at West Buller and Levant.
21. Pay at Consols, Comfort, Seton, Pendarves, Tywarnhayle, Agar, Nansegollan, Fowey Consols, Tremayne, Treviskey; setting at Levant.
25. Carn Brea and other mines sampling.
26. Ticketing at Truro—United, South Caradon, and other mines.
27. Pay at Wheal Ellen, Treleigh, North Pool, Tincroft, Great Wheal Alfred, Heigaston Downs; setting at East Crofty.
28. Pay at Tresavean, Trethellan, Grambler, Condurrow, West Seton, Tywarnhayle, South Trelawny, West Alfred, Copper Bottom, Callington Mines, South Frances, and North Roskear.

Mining Correspondence.

BRITISH MINES.

ALFRED CONSOLS.—There is no change to notice in the lode in Field's engine-shaft, sinking under the 80 fm. level, since the last report. The 80 fm. level, east of engine-shaft, is communicated with No. 2 winze. The lode in the 80 fm. level, driving east of the winze, is 5 ft. wide, 4½ ft. of the south part is worth for copper ore from 60*l.* to 70*l.* per fm. The men that were driving the 80 fm. level to No 2 winze, are put 12 fms. east of this winze to sink under the 70 fm. level, which, in the next report, will be called No. 3 winze. We hope to be ready for sinking Wyld's shaft under the 70 fathom level in about a fortnight from this time. Our sampling on the 27th inst. will be about 265 tons. There is no change to notice in any other part of the mine.

APPLEDORE.—We are making favourable progress here. I hope in a few days to be in a position to set the engine-house, and the masonry of the smiths' and carpenters' shop and counting-house is set at 1s. 8d. per perch, or 36 cubic feet.

BEDFORD UNITED.—The lode in the 115, east of engine-shaft, is without alteration. In the 115, east of Andrews's winze, the lode is 2½ ft. wide, composed of spar, mundic, and ore: in this level west there has been no lode taken down. The lode in the 103 east is 4 ft. wide, worth 4½ tons per fm. In the rise in the 90 east the lode is producing good stones of ore. The winze in the 80 is being sunk by the side of the lode. In the 47 fm. level east the lode is 18 in. wide, composed of spar and mundic, with spots of ore in places.

BODMIN CONSOLS.—*May* 24.—We have a splendid discovery in our south end, at the 13 fm. level; the lode is 6 or 7 ft. wide, 3 ft. of it is good work—the gossan is splendid. The men say they never saw such a lode in their lives.

— *May* 27.—The 13 south continues to improve; as it is at present it will yield 30 cwts. to a fathom. My own opinion is that it will get richer, as we are not yet under the lead ground in the adit. In the 13 north, lode about 4 ft. wide, producing good stones of lead.

BORINGDON PARK.—Murchison's shaft is down about 6 feet below adit; the whim will be in course of working on this shaft to-morrow (30th inst.), and be down to the 10 fathom level by the time the engine is ready to work; the ends are much the same; we have cut through the north part of the lode about 40 fms. east of Hitchen's shaft, which is upwards of 8 feet wide, 18 inches or 2 feet of which is good saving work: we hauled a good pile of ore from there on 29th inst., which was broken in cross-cutting. We commence dressing on Monday; and the masons will commence the engine-house.

BRYN-ARIAN.—The 20 fm. level, driving west from the engine-shaft, is rather improved since last reported on—yielding 15 cwts. of lead ore per fm.; we expect to communicate this end to the winze sinking under the 10 fm. level by Tuesday next. The lode in the 10 fm. level, west of the shaft, is 6 feet wide, and although spotted with ore, is not of any value at present. The winze sinking under this level appears to be in a good grey piece of ground, and will now produce at least 1 ton of ore per fathom. The stopes in the bottom of the deep adit level west are yielding 10 cwts. of ore per fathom. Hallett's shaft is now down 9 fms. 4 ft. under the 10 fm. level; the lode is still disordered by a cross measure of ground, but we expect by the end of this month to be deep enough with the shaft to commence the driving of two levels on the course of the lode, when I hope, from the appearances of the ore ground we have already gone through, to find our prospects more encouraging.

CARTHEW CONSOLS.—The engine-shaft is now sunk near 6 fms. below the 85 fm. level, and the middle shaft is down about 9 fms. below the 65 fm. level; the ground in either continues very good, and in all probability these two 10 fm. sinks will be completed in much less time than any former have been here. The lode in the 85 fm. level north presents a very good appearance, from which we are getting very fine copper, but very little lead. In driving west in the 75 fm. level we have very great encouragement; the lode is from 3 to 4 ft. wide, of a very fine appearance, and producing (though not in abundance) very superior copper ore; from an assay made by Mr. S. T. Williams, it was ascertained to be worth 31½ per cent. for copper. In driving east from the same point we find the ground rather harder, and the lode not so well-defined; but a few feet further driving I doubt not will make a considerable change, as the hard ground here is caused by the north and south lode not having yet got out of its capels. In the south end, 75 fm. level, we have had a very good lode since my last notice of it; this end is now within 4 fms. of the winze, which is sunk through a very good bunch of lead. The 65 fm. level end south shows very promising; the lode in it is well-defined and regular, and its production of lead is increasing. We are now rising in the back of this level to hole to the winze that is sunk in the bottom of the level above, which being done, and the 75 fm. level south being communicated with the winze ahead of it, we shall be in a position to raise good quantities of lead, and until which we shall only be in receipt of that which is got from the ends, which cannot be of a great amount. The tribute department is much as it has been of late.

CYFANNEDD FAWR.—The sinking in No. 1 level is not quite so good, but still they are raising some good stones of ore; the driving is improving, and very beautiful ground just coming in.

— *May* 27.—The lead is not so good in No. 1 sinking; but I am pleased to say the lode continues widening, and there is every appearance of coming into bearing ground immediately. In the western driving the ground is very favourable—the lode widening, and I am most anxious to reach the junction.

DEVON AND COURTENAY.—The lode in the 60 fm. level west is about 2½ ft. wide, yielding 3½ tons of ore per fm. In the 40 winze the lode is spotted with ore, but not enough to save. The 60 end east and the 30 end are without any alteration to notice this week. The water in Rundle shaft is increasing, which I fully anticipated would be the case when we got under the level of the river. The water is decreasing in Carthew shaft, and the men are getting on well; in fact, all hands in every department are doing all they can to push the work for the speedy development of the concern, believing we have a profitable mine.

DOLFRWYNOG.—The ground in both drivings is as promising as could be looked for, and from appearances I should say they are near the Gauddr Goch lode.

— *May* 27.—We continue the driving on the course of the lode in the Fownog level; the ground has improved since crossing a northern lode, and which caused a throw to our lode of about 1 fm.; it is, however, at the present time making its usual bearing, and is quite as wide as before. There is no alteration to notice in the appearance of the Fron lode.

EAST BALLESWIDDEN.—We have built the dam 18 feet high against the water; we have 6 ft. more to build to bring it to the adit level, that will enable us to sink the engine-shaft with all speed. In the old men's works, south of engine shaft, there is a good lode of tin, and there is also a good lode holding away north of engine-shaft. We sampled last week about 16*l.* worth of tin, and in three weeks we shall be sampling again; the greater part of this comes from the attle in clearing up 5 fms. of the engine-shaft, which will more than pay. The four men driving the adit end, on the flat lode, on tribute, at 10s. in 1*l.*, are doing well. In sinking the shaft from surface to adit, on flat lode, we have found an arch of ground, with good stones of tin. I have often said in my former reports that we have a very kindly mine, nor am I mistaken.

EAST BIRCH TOR.—We are getting on very favourably with this mine—in fact, there has not been a better lode or branch of tin in any of our underground workings. I have sent you a few specimens of a new discovery which we made on a large branch that runs into No. 4 lode going west. The greatest part of the backs is taken away above the shallow adit. We are now driving east, and our lodes have a very promising appearance, and bid fair to improve in depth.

EAST CROWNDALE.—The lode in the 50 east is poor, being very much disordered by flookan—no lode taken down in the shaft since last reported on. We purpose getting the steam up at Crowndale engine on Monday next, and set at work.

EAST WHEAL GEORGE.—The lode in the 23, west of shaft, is 2 ft. wide, composed principally of capel, with occasional stones of ore; ground improved—re-let to drive at 55s. per fm.; same level, east of shaft, it is producing stones of grey ore of superior quality—produce by assay of Mr. Gully 59¾ per cent. The winze in the bottom of the 12 is communicated with the 23 fm. level east of shaft. Having let down pretty much water of late in the 23 west, I purpose at once to resume the sinking of the new winze, west of shaft, in the bottom of the 12. The lode in the stopes in the back of the 23 is producing about 8*l.* worth of ore per fm. The stopes in the back of the 12 west are yielding some saving work: I purpose to offer these stopes on tribute at our next setting. April ores sampled, 20 tons 15 cwts.; produce, 14¾ per cent.—JOHN LEAN.

EAST WHEAL RASHLEIGH.—We have cut a branch in the adit since last report, with spots of ore. In sinking the shaft the lode is still improving in depth, containing spots of lead, and every appearance of a promising lode.

EAST WHEAL REETH.—The lode is much the same as it was last week. We must keep the wheel going this week, in order to put in some timber, as it catches to the connecting rod in the engine-shaft; but, after Saturday next, we must decline using the water-wheel altogether. I am sorry the engine is not further advanced—Mr. Gray expects the remaining parts of her this week: I hope we shall not be disappointed. I went over the surface of the sett on Monday, and I am decidedly of opinion that we have one of the best mines in the county, if worked properly and with spirit.

EAST WHEAL RUSSELL.—We have completed Hitchins's shaft to the depth of 16 fms. below the adit. The lodes appear to be changing—more white prian on the north part. We have just reached the north wall, so that the shaft will be sunk on the course of the lode. The foundation for the engine-house is taking out, and stone being raised, preparing for the new engine.

ESGAIR LLEE.—The caunter lode in the deep adit, east of Morgan's winze is still poor; the stopes in the back of this level, 6 fms. behind the end, are looking promising, and will on an average yield about ¼ ton of ore per fm. The other stopes are without alteration since my last. We are going on cutting down the engine-shaft, &c., from the surface. We sampled 20 tons of ore on Tuesday last, the 20th May.

GEORGE AND CHARLOTTE.—In driving east on the south lode, in the shallow level, some considerable improvement has taken place in the lode, the ore part being full 3 ft. wide, turning out upwards of 3 tons of ore per fm., with strong capels to the south or foot-wall. In driving east in this level, on the north lode, the lode has been cut off by a cross-course, which hove it out of its course to the left about 6 ft., where it was again met with, having a kindly appearance. The sinking of the winze has been suspended, in consequence of increase of water. The shoding on the top of the hill to the east of the present end has been continued, and a large lode met with, containing strong-looking gossan. The tributers are getting on with the communication with the shallow level as fast as possible.

GEORGIA CONSOLS.—The cross-cut driving north from the engine-shaft, in the new or 22 fm. level is in 2 fms.: we have 3 fathoms more to drive to cut the lode, which will be accomplished by our next survey day; the cross-cut south, in the same level, has been driven to the Lane lode, and we have great satisfaction in stating that it is far superior to the same lode in the level above; we have driven west on the course of the lode 2½ fms., and it is becoming richer every foot. The cross-cut driving south from the above shaft, towards Noon west lode, in the 13 fm. level, is driven 19½ fathoms, and assuming the inclination of the lode is the same here as in the adit level, we may expect to intersect the lode by the latter part of next week; this cross-cut has been a most tedious and expensive affair, a great part of it having cost 12*l.* per fm.—the price of the last fathom was 8*l.* 8s.; in the bottom of the adit level, on this lode, we had a run of good tin ground for 40 fathoms in length, and we have every reason to expect a superior lode at this deeper level: this is one serious expense that will very shortly be dispensed with. The flat-rod shaft is also down to the 22. By referring to our previous reports you will perceive we had a very superior lode in the west end of this shaft for the last 6 fms. sinking; we have driven on this lode in this new level about 2 fms. west, and are happy to say it continues as good, if not better, than it was in the shaft; the eastern end is good saving work, but not equal to the west. The Lane lode, in the 12 fathom level, east and west of the cross-cut, south from the flat-rod shaft, is producing good saving work, especially in the west end, and from the reports we have received from the old men, we are warranted to expect a very great improvement in driving the next 14 fms. The Highdurrow shaft we expect to hole to the 12 fm. level some time next week, and when it is done we shall commence driving north and south to cut the Lane and Coals lodes. When these operations are completed we shall have a great accession of produce. The tribute pitches are all looking well, particularly the four which were set last survey day, and should Nicholas's pitch continue as it now is, that pare of men will raise at least 100*l.* worth of tin during the present month. Eight heads of stamps have been set to work, and nothing can exceed the manner in which they and the engine perform their duty. We have much to regret the delay which has taken place in this very important part of our operations. The miscalculation of time has been caused by Mr. Tippett, the engineer, in not having the fly-wheel stands built with the foundations of the engine-house; but as he and the carpenters have been indefatigable in their exertions for the last fortnight, and as the whole has been completed in less time than any other stamping engine that we are acquainted with, we do not wish to be severe in our condemnation. The tin floors are progressing very satisfactorily, but will not be completed for one month hence, although this will not retard our stamping operations. The estimated quantity of tinstuff of all qualities now at surface is 2000 bushels. We think it advisable to defer stating at present what our returns are likely to be for the next two or three months—in fact, we cannot until the several lodes alluded to above are intersected. In conclusion, we beg to say the present prospects of the mine exceed all our previous anticipations. A communication received from the mines, dated May 21st, announces a further general improvement in the lodes, &c.

GREAT WHEAL BADDERN.—There is a general improvement in all the levels, and at every point of working. We have made a valuable discovery in the 20 fm. level end, by cutting into a side lode, which is running almost parallel with the main lode. It seems that this new lode exists for the last 100 fms. driving, only a little to the south of our present level. Matters underground, and at surface, are progressing with spirit, and satisfactorily. The prospects in the mine are better than heretofore.

HEIGNSTON DOWNS.—Doidge's winze, sinking below the 45, progresses satisfactorily. No lode taken down in the 45 east this week. The 35 east produces good saving work for copper ores. The lode in the cross-cut south is very promising, composed of friable quarts and gossan, with a small proportion of yellow copper ore. The lode in Hitchins's shaft is without alteration. The lode in the 35 west is 4 ft. wide, with some good stones of grey and yellow copper ore.

HOLMBUSH.—We have commenced sinking Hitchins's engine-shaft below the 132 fm. level, and began to draw the shaft from that point by the steam-whim, which answers our expectations in every respect. We shall now be in a position to extend our operations on the lead lode in this level. The lode in the rise above the 132 is 1 ft. wide, composed of quartz, prian, and stones of lead ore; we are pushing it on as fast as possible to hole to the 120, that we may set more tribute pitches next setting day. The lode in the eastern stopes, in the back of the 132, will produce 3 tons of copper ore per fm.; the lode in the western stopes, in the back of this level, is very much dwindled in size—where it is now wrought it will produce 2 tons of ore per fm., but we think it will open larger shortly. The lode in the 132, west of the diagonal shaft, is 15 in. wide, producing 2 tons of copper ore per fm.; the lode in the rise behind the last-mentioned end is 10 in. wide, producing stones of ore. The lode in the 120 north is 2½ ft. wide, composed of flookan, spar, and stones of lead; our object here is twofold—first, to prove the lead lode, and second, to cut the north copper lode. The flap-jack lode in the 120, east of the cross-course, is 3 ft. wide, producing stones of copper ore, and letting down a great deal of water. The lode in the 110 east is 18 in. wide, producing about 1½ tons of ore per fm. The lode in the 100 east is split in two branches, each containing stones of ore, and no doubt when they form a junction it will be found far more productive than at present. The lode in the 100, west of Wall's, is 4 ft. wide, composed of mundic, spar, and blende, bespangled with copper ore. The ground in Wall's engine-shaft, sinking below the 100 fm. level, is just the same when last reported on—it is not harder.

KIRKCUDBRIGHTSHIRE.—The lode in the 74, west of Stewart's shaft, is 2½ ft. wide, and has improved a little; in the 74, east of Gilpin's, lode 2 feet wide, a small branch ore; in the 74, west of ditto, lode 6 ft. wide, with a branch of ore, yielding ½ ton per fm. In the rise in the back of the 62 west it is 4 ft. wide, yielding ½ ton per fm. In the 50 west it is 5 ft. wide, yielding ½ ton per fm. In the 40 west the lode is small, but the ground about it has an improved appearance.

LAMHEROOE.—We have our wheel erected, one calcining oven finished and flues and floors in progress to test our tinstuff, and by the 21st June or so we hope to have the flat-rods connected with pumps in Jessie's shaft, so as to put beyond question the value of that very important lode. In examining the last stuff brought up from the intersection in the 14 fm. level, I find branches and numerous spots of yellow copper ore beginning to concentrate, but still the black ore and mundic preponderate. It must be remembered that this large lode is only 9 fms. or so below the river level, and still above high-water mark. We are progressing in our discovery of No. 3 lode to the cross-course; I expect to get tin here very shortly. We are driving on the lode at Addis's shaft until our flat-rods are up. We are about raising a good quantity of tinstuff from the engine-shaft. The 60 fm. level is proceeding well. I went over Benny with Captain Opie, and commenced operations by costeaning, after which we are thinking of driving on the cross-course into the hill, if the ground will permit cheaply. I have deferred making any arrangements about the wheel until we are at full work at Lamherooe. I surveyed the Benny sett, and left instructions with Capt. Opie about the wheel and its conversion, but all our energies are now directed to the completion of our stamps and floors at Lamherooe, which it would be advisable to complete first, and I have put the two men to costean, and then to extend on the cross-course.

LLWYNMALEES.—The 14 fm. level west has much improved, and now contains a very fine lode. The stopes over are from 3 to 5 fms. 5 ft. high; those west of the western winze have a fine course of ore in them; the other stopes over the 14, for 3 fms. high, are improving. The 24 west will pay its way, and looks most promising; the 24 east does not at present contain sufficient ore to pay its way. The steam-engine has been consuming during the week 4 cwts. of coal per 12 hours, and if this dry weather continues, still less coal will be consumed.

LYDFORD CONSOLS.—At Wheal Mary, the lode in the gossan shaft is large and kindly, composed of spar, flookan, prian, and spots of good-quality copper ore. At Wheal Adventure, the lode in the adit, south of engine-shaft, is composed of flookan and mundic.

MARKE VALLEY.—In the 80 fm. level west the lode is 6 ft. wide composed of capel, quartz, mundic, and stones of ore; driving east in this level the lode is 6 ft. wide, principally capel, with mundic and spots of ore. In the winze sinking in the bottom of the 65 fm. level the lode is yielding tons of ore per fm. The stope in the bottom of this level is producing 15 tons of ore per fm. In the new stope in the same level the lode is yielding 6 tons per fm. In the midway level east the lode is 12 ft. wide yielding 12 tons of ore per fm. In the winze sinking in this level the lode is producing 7 tons of ore per fathom.

MILWR MINES.—Since my report of the 12th inst., that part of the Milwr Mines called Milwr, embracing a dozen leases, has been partially drained by the complete drainage to the bottom of the engine-shaft by Milwr engine, which went in fork to the botton on the 27th inst., draining the 10 fms. of water mentioned in my last in 15 days. The pitwork of this engine has been repaired to the bottom, one new working barrel put in, and another new one will be put in the bottom lift in a fortnight. Since the 12th inst., the 7 fms. of water said to be on the stuffing-box of Herward plunger, has been drained by the Milwr engine, and the plunger, after making eight new joints in the column, partially restored, and put to work on the 24th inst., which drained it to the bottom on the 26th, and the drawing lift from the bottom of the plunger-lift, 70 fathoms deep, to the 80 fm. level, put to work on the 27th instant. Since partially restoring the plunger, this engine has sunk the water 5 fms., and it may be reasonable to hope the drawing-lift will be drained by the end of next week, by which time a new plunger-pole, stuffing-box, and gland will be ready to repair the broken and defective parts, making us ready with the new drop-lift to work in the whim-shaft, for reparing the former great failure—so that, on the whole, we may consider ourselves getting on fairly, although till this week we have not had three days' work out of Herward engine, in consequence of the miserable state of the pump work. We are now daily setting pitches throughout the drained parts of the mines, at tributes from 3*l.* to 6*l.* per ton—several at Brynford, there or four at Milwr, eight at Newhard shaft, three in the 112 yard level, at Heward, one of them, 4*l.* per ton, has a branch of ore 12 inches wide, yielding at present about 4 tons per fm. We expect to go into the 70 fm. level to-day (28th inst.), where we have reason to hope a great deal of tribute ground will be found; but the best course of ore in the mine scarcely touched lies between the 100 and 110 fathom levels, to where the shaft has been sunk; but as the cross-cut is not driven to the lode, we may hope to see this part in five or six weeks time. On the whole, the ground already drained is turning up quite as well as we expected it would do. We sold 25 tons on the 29th inst., but it is impossible at present to say what quantity we shall have for the next month's sale; still we may hope for an increase.

NORTH BASSET.—The lode in the new shaft is 7 ft. wide, all ore, worth 70*l.* per fathom. In the winze sinking under the 72 fm. level the lode is 2 ft. wide—a solid course of ore. In a pitch under the 62 fm. level, we have this week cut a splendid lode, worth 60*l.* per fathom. The 72 fm. level is driven 55 fms. west of the new shaft through excellent ore ground. The lode in the 82, west of Miner's shaft, is very large. The 62 fm. level west is holed to the cross-cut from Lyle's shaft, and will soon be a great advantage in taking away the water from the eastern engine. All the pitches and levels are looking well.

NORTH TAMAR CONSOLS.—We have succeeded in draining the water from the 10 fm. level, and cleared out the south end, which we find well timbered and secured. We are informed by those who worked it last that there is a rich branch of lead in this end, which we hope to find to-day (May 29) when we remove the breast boards; and I have not the slightest doubt of finding the statement correct, as we have found a quantity of stuff run down between the back laths, and by washing find it contains lead, and will pay for dressing. I find the water below the adit is very little. After looking at this end, and driving a short distance to prove the lode, we shall then rise in the back of the 10, and sink from adit, and communicate these levels to ventilate the same and open tribute ground.

NORTH WHEAL ROBERT.—In our adit level the lode is improving, being 2½ feet wide, with stones of ore; we have driven the level for the last two months 16 fms. 6 in., at 4*l.* per fm., and reset it on Monday at 3*l.* 10s. The mason work of the walls of our wheel-pit is finished, and we shall commence the walls of the bob-pit to-morrow. The axle is on the mine, and will be immediately adjusted. Capstan and shears are all ready to put up, and plat cut in adit level.

PRAED CONSOLS.—Since my last, the men in the north adit have driven 5 fms. They have now driven altogether 17 fms. in new ground. At that point there was very little air; we have, therefore, sunk a shaft from the surface in the past week for the purpose of ventilating it. After we have made the proper arrangements, we shall again commence driving with renewed vigour, and I hope to get it in shortly. The men, in sinking near the cross lode, have had some hard ground to sink through, and have, consequently, made but slow progress; they have, however, got through the worst of it, and I expect they will complete their contract in a week or two, and then we shall commence sinking through the large cross lode; and I hope soon to send you favourable reports respecting it.

PRINCE ALBERT.—We have had possession from the 1st January last, and our operations, although rather limited, have been fraught with good practical results. We found the shafts, adits, &c., in a very dilapidated state; depredations had been committed by the removal of timber, &c., so that considerable damage had been done to the mine; we have, therefore, been engaged clearing and securing the shafts, and the adits (so much out of repair) are properly secured and the water let out, so that the last impediment is removed. We have also been costeaning in search of other lodes, and have come upon the celebrated Pink lode; this lode, to the west, has been more productive than any other hitherto in the St. Agnes district; and, from its appearances here, there is every prospect of its being highly productive in this sett also; and when we take into account the very little done on the lodes, the tin bill presented cannot fail to give our adventure a character worthy of attention. We have at work four underground men, a tin dresser, two boys, and a girl. Our prospects are good, and we expect to set a tribute pitch some day this week; and, under economical management, we hesitate not to say, that Prince Albert cannot fail to be, in a very short time, a good dividend-paying mine. I recommend the company to get the engine-shaft in order immediately, and to erect a steam pumping engine of ample power to drain the mine, and to begin a cross-cut to intersect the lode, as referred to in the report, the cost of which will be about 600*l.*

SOUTH DOLCOATH.—The lode in the 60 east is 4 feet wide, composed of spar, prian, &c., and from its kindly appearance we have put four men to drive east in the 50 fathom level.

— *May* 21.—Since the last general meeting, our operations have been principally confined to driving the 60 and 50 fathom levels east of engine-shaft; in these ends the lode will average from 3 to 4 ft. wide, and is composed of prian, spar, peach, &c., impregnated with spots of copper ore: the kindly appearance of the ends, I think, would warrant the continuation for a few fathoms further. In the eastern part of the sett, four men are engaged clearing the adit, which a fortnight will complete. I would recommend the driving a cross-cut south to the extent of the sett, in order to intersect the south lode. This portion of the sett I consider to be very favourably situated, and worthy of more extended operations.

— *May* 28.—We have almost completed the footway to adit in the old engine-shaft, in the eastern ground (Pendarves), and shall in a few days commence clearing the adit, and extending it south by two men and two boys to intersect the south lodes.

SOUTH OF SCOTLAND MINE.—The ore is improved in the sole of the level, where we have four men stoping. We have commenced to enlarge the south shaft with eight men, and expect to have it completed in about two weeks. We are making preparations for dressing, and expect to begin shortly.

SOUTH TRELAWNY.—The 60 is still driving by six men, ground favourable, lode looking a little more promising, composed of soft spar, killas, flookan, and a great deal of fine mundic.

TREBELL CONSOLS.—Since my report of the 9th instant we have been driving on the lode as stated therein. I think, after driving a few more feet, it will be the best way to drive west, and hole to the workings named in the last report, as it will ventilate the end, and be better for drawing the stuff. All the work raised must be stamped, and if it be put at the tail, or commencement, of the adit, it will have to be carried to the stamps; but after holed to the bottom, it will be close where machinery will be erected. The lode is much improved. We have another large lode, in addition to that of 18 ft., referred to in my last, to be intersected, and it is (to all appearance at surface) by far the best of the two; and still further south is another lode from 2 to 3 feet wide, of uncommon promise; and, in addition to all the tin lodes, we have one of the best copper setts in the county. If any young mine is worthy of a spirited trial it is Trebell Consols.

TRELEIGH CONSOLS.—Christoe Lode: In the 100 fathom level, west of Garden's, the lode is 18 in. wide, worth 3*l.* per fm. In the rise above the 90 the lode is 2 ft. wide, worth 28*l.* per fm. In the winze below the 80 no lode taken down this week.—Parent Lode: In the 64 cross-cut north of Parent engine-shaft, we are driving north to cut Parent lode; and the cross-cut south in the 60 is driving to cut the Middle lode. The 30, east of Parent shaft, is driving to cut the lode.—Middle Lode: In the 40, west of cross-cut, the lode is 1 ft. wide, with stones of ore. At Burgess's shaft, below the adit, the lode is 18 in. wide, worth 3*l.* per fm.

TRELOWETH.—We have sunk in the past week in the engine-shaft 5 feet 6 inches, and continue sinking in the elvan. The 32 fm. level cross-cut has drained the water from Harrison's shaft, and we shall commence sinking at once below the depth sunk by the former party. There is some stuff in the shaft which must be cleared, and by my next report expect to be in a position to inform you of the character of the lode in this shaft. The capels of the lode in the 32 cross-cut continue hard, and we have driven 3 ft., consequently have not seen anything of the lode. I hope in my next communication to give more particulars.

TRETHELLAN.—We are driving the 12 west on Tresavean lode, which is 2 ft. wide, composed of spar, jack, and stones of ore—looking very promising. We are also driving the cross-cut south in the adit level 10 fms. west of shaft, and expect in about 4 feet driving to cut the lode. In the 10, above adit, the lode is 3 feet wide, with good stones of ore. Our other ends and pitches are poor. We expect to raise for the next two months about 90 to 100 tons of ore.

TREVILLE.—Since our last meeting, at which it was resolved to bring home a larger supply of water for the wheel, we have cut a leat upwards of 700 fms. from the River Tavy, built a new wheel-pit and removed our present wheel, put it to work, and larked the water. The present wheel-pit is sufficiently large for a wheel 32 ft. diameter and 6 feet breast, and the leat will contain enough water for a wheel of the before-mentioned diameter and 8 ft. breast, and when the mine is sufficiently developed to require a larger wheel, it can be erected by a delay of 12 or 14 days at the most, if made on the same principle as our present one, which can then be removed to its former place, and converted to hauling or crushing, or both, as may be deemed necessary. We have now beyond doubt sufficient water-power to take us down upwards of 100 fms., our present wheel being of sufficient power to sink with to between 30 and 40 fms. The men will begin driving on Thursday or Friday, having some work to do in the shaft previously.

VICTORIA.—Our setting was on Saturday last—south adit to drive as directed, by two men, 2 fms., or the month, at 4*l.*; north adit on caunter lode (otherwise great cross-course), by four men, 5 fms., or the month, at 2*l.* 5s. per fm.; adit west, on the tin lode, two men, 1 fm., at 8*l.* 10s.

WEST GOGINAN.—The ground in the engine-shaft is favourable for sinking, and but very little water; the lode large, and much the same in appearance as it has been for the last month. We have completed the smith's shop, and shall commence making the iron-work for the wheel immediately.

WESTON (LEAD).—The men are going on with Readwin's shaft very fast, which makes much water. The vein has been discovered below the rock you noticed, just above the mouth of Crosse's level, and we came in contact with some old workings, where I should fancy a bunch of ore was found: however, it looks exceedingly promising.

WEST POLGOOTH.—We have cleared up the adit level, and sunk Hancock's shaft 3 fms. under the adit level into some of the old men's workings, where there is water enough to work the engine. Please send down the engineer, as everything is in readiness for him. We shall be able to do a great deal of work in a short time.

WEST WHEAL JEWEL.—The 85 fathom level, west of Williams's cross-course, on Wheal Jewel lode, is communicated to the winze sunk below the 70; the lode is 18 in. wide, worth 10*l.* per fm. The 70 west is producing stones of ore. The 57, west of Hodges's cross-course, on Tolcarne tin lode, when last taken down, was worth 12*l.* per fm.; the 57 east is worth 5*l.* per fm. The stopes above the back of this level are worth 30*l.* per fathom. The shallow adit level, west of Tregoning's shaft, on the same lode, is worth 7*l.* per fm. We have drawn the water out of Quarry shaft, and have set it to sink by six men, at 10*l.* per fm. The stopes in the bottom of the 12, east of Tregoning's shaft, on Tolcarne tin lode, are worth 12*l.* per fm. The stopes in the bottom of this level, west of Tregoning's winze, are worth 24*l.* per fm.; these stopes are working on tribute.

WEST WHEAL VIRGIN.—We are driving east and west of engine-shaft—east, a good lode of tin, 10 to 12 in. wide; west, much as last reported. We shall not sink the engine-shaft for this month, until the water abates more. We are sinking a new shaft from surface on another lode, which has a kindly appearance for tin, and from this lode there has been an abundance of tin raised. Next week we shall pitch to work on another lode, where we have the greatest encouragement to proceed, and where they have a large quantity of tin raised. Our prospects are very encouraging.

WHEAL ADAMS.—The 72 fm. level is driving by 6 men, at 50s. per fm.; the lode is 5 ft. wide, consisting of friable quartz and granular galena, containing about 26 ozs. of silver in a ton of ore. The lode (quartzose) in the rise will produce 2 tons of lead ore per fm., and the stopes in the bottom of the 60 will produce 2½ tons of ore per fm. The lode in the 50, north of the old engine-shaft, is 2 ft. wide, with a vein on the footwall, consisting of quartz and lead, likely to improve. In the 40 north we are cross-cutting towards the old shaft in favourable ground; the stopes in the back will produce 10 cwts. of lead ore per fm. The pitch in the 28 is not looking quite so well; the lode in the end extending north is 2 ft. wide, containing stones of ore. At Aller we have cross-cut several fms., west of the main cross-cut, and have found neither lode nor branch; we have, consequently, resumed driving north on the lode previously cut, which is 2 ft. wide, of a very promising character—gossan and spots of crystalised carbonate of lead. At hill, the lode is 2 ft. wide, producing some good work for manganese; it is enlarging and improving in quality going west. The pumping and winding engines are in very good working order. We expect to get a vessel to take 50 tons of ore to Holywell in the course of the week.

WHEAL AGAR.—The prospects of this mine are very cheering. We have sunk the fire whim-shaft 12 fms. under the 60 fm. level, and commenced to drive an end west; the lode is 2 ft. wide, yielding fine stones of ore and tin; the 60 fm. level, driving east on the south lode, still continues to look well, and tribute pitches are set 2s. 6d. in 1*l.*, and in the 48 fm. level at 3s. in 1*l.* We have sampled to-day 115 tons; the average produce of which is 9½.

WHEAL ARTHUR (CALSTOCK).—The lode beyond the north copper lode is underlaying south, and which we expect to cut every day, as from the underlay we conclude that the two will come together just where we now have the ore. From the north lode we have raised about 1 ton of ore since we cut it; we are not yet through the lode, but have driven 2 ft. through it, where we have a solid leader of rich ore 4 in. wide, which will produce 1 ton per fm.; the other part is impregnated with copper ore throughout. I have no doubt that at the junction of the two lodes we shall have a large quantity of ore. The mine, generally, is looking well.

WHEAL AUGUSTA.—In the 10 fm. level we have two pitches working at 10s. in 1*l.*; the lode is from 10 to 12 in. wide, of good quality stuff. In the 18, east of engine-shaft, the lode is from 8 to 10 in. wide, and produces good stones of tin; in the 18 west the lode is 2½ ft. wide, and has a very good appearance. We have sunk the engine-shaft 10 fms. 4 ft. under the 18 fm. level, and we shall soon be in order to commence driving under the rich course of tin gone down in the bottom of the 18. We have cleared up a shaft on a lode to the north of our former workings; this lode is 7 ft. wide, worth from 2s. to 3s. per sack; but the water is very quick, and we cannot do more on this lode without the aid of steam-power. We have also opened another lode to the south; this lode is 20 in. wide, with small branches of very rich quality stuff running through it. There are several other lodes in this sett which we have not yet proved.

WHEAL CREBOR.—The following was read as a supplemental report at the meeting on Tuesday—particulars of which appear in our City Article:—The committee consider it desirable to print and circulate their report previous to the meeting, in order that the adventurers might be fully aware of the steps proposed to be taken, and to afford them an opportunity of expressing their views thereon, the terms of the grant of Mr. Gill's land not yet being finally settled. It is gratifying to the committee to have received the most unanimous approval of their plan for prosecuting the mine vigorously at deeper levels, the profitable results of which can scarcely be termed a speculation, from the facts which have been developed in the adit or 54 fm. level. It is confidently expected that very soon after the erection of the steam-engine the returns of copper ore will be considerable, as the Rundle shaft is already sunk 50 fms. under adit, and several levels are also driven west to within a few fathoms of the shoot of rich ore lately discovered going down and enlarging from the adit level. The committee have pleasure in referring to the weekly report, to show the continued improvement in the productiveness of the present operations. There were 33 tons of copper ore sold last week, realising 112*l.* 11s., but of which 17 tons were the dressings from the halvans, and were, consequently, of a low produce. It is anticipated that another parcel of ore will be sampled next month. The committee have received several objections to the proposal for increasing the number of shares to 2048; and although they and their immediate friends hold by far the largest interest in the adventure, yet they will readily acquiesce in the course which will meet with the greatest unanimity. The present number of shares being therefore, retained, a call of 10s. per share will be required, which the committee recommend should be payable on or before Thursday the 12th June.

— *May* 28.—The lode in the 54 end, for some days past, has been rather disordered with a large capel, but is improving again, and has a promising appearance. The lode in the 40 end is improving, good spots of copper, but not sufficient to value as yet. The tribute pitches are producing fair quantities of tolerably priced ore, and the tributers making good wages. Our sampling at the end of June, being two months' raisings from two pitches, with what is broken in the 54 end, will most likely be in value beyond the former ones. We are now waiting for the drawings of our intended engine-house to commence operations. The dressing is going on favourably, and our engine, pitwork, and other machinery are in good working order.

WHEAL HAMLYN.—In driving east, on the course of the east and west lode, which we have recently discovered south of the adit end, we find the bottom of the level to produce malleable ore, such as rarely to be seen at this shallow depth, and there is none to be seen 6 inches above the bottom of the level, consequently it is evident that we are just on the back of the ore; and, in order to convince you that we can raise native ore, I will by next post send you a box of specimens from the bottom of the level on the course of this lode, which is a very promising one; we have about 10 fms. to drive on the course of it before we shall cross the great caunter lode; at present we can drive at 2*l.* per fm. I will say this is one of the best speculations we ever saw, and I believe it will make equally as rich a mine as Wheal Maria. I should very much like to see those large lodes 10 fms. below the adit level, where I have no question we shall have abundance of native copper. When you receive the specimens, I shall be glad if you will be kind enough to inform me they are safe at hand, and also how you like them.

— *May* 27.—I hope you have received my report of Wheal Hamlyn, which I sent off by yesterday's post, and according to my statement I now forward you a box of specimens broken this morning from the east and west lode; but I trust that your expectations will not be raised too high through my report, so as to expect stones of solid native copper at so shallow a depth; as far as I have experienced in mintng, first we meet with greens on gossan lodes, then the lode gilded with native copper, which is a very strong indication of lodes proving to be very productive. The ore does not make up above the level, consequently we cannot expect to find anything at all better on the very top of the shoot, but if we can break such stuff as this, just as the lode is forming itself, what may we expect to meet with 10 fms. deeper? You will please to observe this stuff is only coated with malleable ore as yet. I here also send you a sample of the prian part of the lode. I hope you will have a satisfactory meeting; if you have not this time, I believe I must attend the next, when I shall be able to convince you all of the propriety of working this mine with all spirit and vigour.

— *May* 29.—In driving south of east, towards the great caunter lode, we have met with a very pretty east and west lode, 6 ft. wide, underlay north 2 ft. in a fathom, where we have commenced to drive east on its course; and by driving about 12 fms. we shall cut the great caunter lode, where I would propose to sink a shaft from the surface for ventilation for air, and also to draw up the stuff, which would save a great expense, and if we choose we can sink the same shaft on the course of the great caunter lode, where, I believe, we shall have abundance of copper ore, especially as we have now, in the bottom of the adit level, on the course of the east and west lode, malleable copper: in fact, the lode in the bottom is all impregnated with it, but it does not appear to be 6 inches above the bottom of the level, consequently our level must be just on the back of the ore.

WHEAL LANGFORD AND BARING UNITED.—Since my last we have sunk Dare's shaft 1 fm. 2 ft., making 10 fms. from the surface, which is to the adit level: the ground is of a favourable character, but a little increase of water, which we may reasonably expect as we get deeper. We have effected the communication from the cross-cut south to Dare's shaft; and as the weather is now set in dry, and the water falling back, we intend to resume our workings at Pengelly Cross, and sink Baring shaft some fathoms deeper on the course of the lode. We took down the silver lode yesterday (May 28), and broke about 4 cwt. of saving work, but not rich. We are getting on with the building for the engine-house, &c., as fast as possible. The two parcels of silver ore will be ready for sampling on Monday, particulars of which I will give in my next.

WHEAL MARY ANN CONSOLS.—The ground in the deep adit level, driving west on the course of the lode, is become harder and more difficult to drive in since my last report; the lode is 2½ ft. wide, composed of capels, spar, mundic, killas, and occasionally good stones of ore. In the cross-cut driving north, to intersect the new north lode, the ground continues pretty much the same as it has for some time past—a close blue killas, with spar branches, containing mundic. I am glad to state that the ground, in driving towards the great Raddon copper lode, is very favourable indeed, four men having driven 3 fms. in the past week in killas strata of a very kindly description, and I consider there is not any reason to doubt of good success in this place. We commenced shoding, to discover the Raddon lead lode. In the beginning of the week I put the men 80 fms. to the south of the point where the lodes were first seen, and I am happy to inform you that we have succeeded in cutting one of the best looking lodes that ever came under my notice. We have not as yet cut through it to the eastern wall, but have seen its size to upwards of 8 ft., composed, on the western wall, of flookan, the central part 6 ft. of gossan, and again to the east side flookan, containing a great quantity of mundic. We have, according to your direction, commenced a deep adit cross-cut level to take the lode in about 6 fms. driving, when the most favourable results may be anticipated. We shall, next week, commence shoding for lead lodes at Mary Ann.

WHEAL MARY EMMA.—The adit is being driven by the side of the lode, as the ground is softer and greater speed can be made, to reach the shoot of tin ore forwards, as noticed in Mr. Jehu Hitchins's report. Two shafts have been sinking from the surface; the one on the hill, and the other half-way between that and the pole of working in the adit. There is a capital lode in the western shaft, producing good tin.

WHEAL PENHALE.—The men in driving south from the engine-shaft, in the 40 fm. level, are getting on with very good speed, and I hope, with the aid that is now afforded by the men driving north from the bottom of the caunter winze, that these two points will shortly be brought in conjunction, which will give us free and easy access to that very important part of the mine—the caunter lode. The ground in either of those ends continue favourable. We have been able to do a little south of the winze again this week, and the lode opens admirably well, and we are getting therefrom very rich work in lead and copper. The tribute department is showing very well, and the mine altogether may be considered as presenting very good appearances, better than for some time past, even in the presence of the caunter lode having been so rich.

WHEAL ROBINS.—Our smiths and carpenters' shops are so far advanced as to be in working order, though not quite finished. The count-house is thoroughly repaired, the wheel-pit excavation rapidly progressing, and I hope will be completed in a week. The repairing the shaft goes on very satisfactorily, and nearly enough stone on the mine for building the walls of the wheel-pit. We have also some lime and sand brought on the mine for that purpose. The clearing and securing the adit is also going on very favourably. In short, the whole of our works are being pushed on with all possible vigour.

WHEAL RUSSELL.—Some improvement has taken place in the south lode, driving east in the 48 fm. level; it is from 2 to 3 feet wide, producing good stones of ore throughout; in driving east on the north lode, in this level, the lode is divided into two branches, each carrying a leader of copper ore; in driving south in the cross-course at the 48, we have discovered the great south lode, and have commenced driving west on it—lode from 5 to 6 feet big, and good stones of ore in it. No lode met in the 37 cross-cut south or north as yet. The pitches continue to look well, turning out quite as much ore as when last reported. About 70 tons of ore of an improved quality will be ready to sample in about a fortnight. The sinking of the engine-shaft is progressing favourably, it being now down about 4 fms. below the 48 fathom level.

WHEAL TEHIDY.—This mine is bounded on the south by the Carn Brea sett, and on the west by Wheal Agar. We are still driving the 23 fm. level, and shall soon be under the ore ground, where our tribute pitches, worked at 6*s.* in 1*l.*, are looking well. We shall sample a parcel of ores to-day.

WHEAL VENTON.—Capt. James Osborn reports:—Our engine-shaft is now sunk about 14 feet below the 30 fm. level—the ground still easy and congenial for lead; we have also been driving north and south and east and west in the 30 fm. level, for in the south end we met with a flookan that hove our lode, and we have from this place driven about 2 fathoms west, through a soft white elvan, which was very dry till within a foot of the present end, when the ground suddenly changed colour, being much stained with the oxide of iron, and the water began to issue from it, so that we concluded that we were close upon the lode, and as we had already a great increase of water from the north end, we suspended operations here till we were prepared to put our plunger-lift to work, which we hope to accomplish this week, not deeming it safe to do otherwise. In the north end our lode is intersected by an east and west one about 2 feet wide; we have driven east on this lode about 10 feet, and found that our north and south lode was hove about 10 ft. to the east by this. Both of these lodes contain some lead, but nearly all our water (which is much increased) is coming from the north and south lode. I beg to state that, although our lode is not yet so productive as we would wish, its appearance warrants us hoping much for the future, as the most chaotic state of the ground explored in the 30 fm. level accounts for its present character. We have had no less than three heaves in 10 fms.—first, by a cross-course; second, by a flookan; and third, by an east and west lode; but I hope soon to surmount these little temporary impediments, and arrive at successful results, to do which we are exercising all our energies and attention. I ought not to omit to state that, with the exception of two pumps, we have the lift on the mine complete for the next 10 fms., which will materially lessen our cost for materials, compared with what it would be otherwise.

— Mr. Jehu Hitchens reports:—I do not think it at all necessary to go into long detail to convey to you my opinion of the above-named mine, which I inspected on the 15th inst., in company with Capt. Osborn. I shall, therefore, content myself with submitting the following very few observations:—In the first place, I very much like the lie of the ground at surface, undulating as it does with the underlie of the lode, which there is no doubt of is the same as in Wheal Trelawny and the other mines of that run south, and of Butterdon on the north. The sett is sufficiently extensive, and held, I think, on not very heavy terms, at 1-15th dues for 21 years. The lode is l arge and strong, with kindly spar, and the generally other favourable indicative admixtures, as well as good stones of lead ore. South of the shaft, in the present bottom level, now 30 fms. deep, there is a flookan cross-course, which has no doubt heaved the lode west, a cross-cut towards which has been driven some way; this becoming wet, leading to the supposition that it was approaching the lode, is properly stopped till the pitwork in the shaft shall be changed by the substitution of a 10-in. plunger instead of the 8-in. working barrel; the end driving north in this level appears to be in rather a disturbed piece of ground, and the lode not quite defined, still there are good stones of lead ore in spar to be broken, and the appearances altogether are promising. The water generally is plentiful, said to be a good indication in this lode throughout its extent, so far as worked on. The shaft is a good one, and the machinery and general materials well fixed and good; and, considering the time the mine has been in work, only since the early part of June last, no time can have been lost in forwarding the operations connected with this undertaking; on the contrary, a deal of commendation is due to the agent as well as the adventurers for their spirit, and I sincerely hope the generally kindly character which this sett throughout, in my opinion, presents, and which fully warrants a continuance of the energies and capital so ably and spiritedly hitherto carried out, will ultimately reward their enterprise. Should you require any further information as to my views of your mine, I shall always be willing to supply it.

WHEAL WILLIAMS.—We have commenced cutting down the south shaft as far as we can go for water. I hope to have the smiths and carpenters' shops and iron-yard completed by the end of the week; we are likewise getting on with the engine and all surface work as fast as possible.

WILLIAM AND MARY.—The rise in the back of the adit level, against the western whim-shaft, is being put up with all possible speed; and should the ground prove as favourable as at present, we hope to communicate it by the end of next month. A whim is now placed in the shaft, and four men have been put to clear some of the old working, which will facilitate the communication.

FOREIGN MINES.

ALTEN MINING ASSOCIATION.—Estimated produce for April:—

Mines.	Tons of Ore.	Per Cent.	Fine Copper.
Raipas	11	5	0·55
Old Mine	210	5	10·50
United Mines	7	5	0·35
Micheil's	11	8	0·12
Total	229½		11·52

May 7.—*Raipas.*—There is no improvement in the stopes west of Monk's shaft, and the returns continue small—ore very dredgy. No. 11 is dripping somewhat more than before; lode small, though of encouraging appearance, and there is hope of further improvement shortly.

United Mines.—We continue to explore the lode under the 40, without making any material addition to our returns; the prospects are promising.

Old Mine.—Our progress here continues favourable, and some fair returns of good fusible ore have been delivered to the smelting-house. The middle sink is making some valuable returns, and again holds out greater hopes of permanency. The improvement in Slungi's sink still continues, and has enabled us to increase the produce. The prospects in the north-east sink continue favourable; the lode is not quite so large, but contains good ore. Our mining operations have lately been somewhat impeded by a great influx of water into the mine, occasioned by the melting of the snow on the mountains.

Micheil's.—The work performed by the two men employed, though trifling, has been remunerative.

LINARES MINING COMPANY.

The half-yearly meeting of shareholders was held at the offices of the company, Broad-street, yesterday,

THOMAS FIELD, Esq., in the chair.

Mr. GEORGE EATON (the secretary) read the notice convening the meeting and the minutes of the last half-yearly meeting, the financial statement, and also the following half-yearly report:—

This meeting is held in accordance with the regulations of the company, and has been deferred by the directors to the latest possible period, in the hope of being able to report to the shareholders the practical results of smelting the mineral at Linares; but although the arrangements for the purpose are now completed, the actual process had not commenced at the date of the last advices received from Mr. Henry Thomas.

The mining operations having been fully reported every week in the *Mining Journal* and other newspapers, it will be unnecessary to enter into any detail beyond what will be found in the annexed report from the superintendent and mining captain. The directors have, however, considerable satisfaction in stating that the produce of the mines has fully borne out the expectations expressed by them at the last half-yearly meeting—the quantity of ore dressed and weighed into stock having amounted to 696 tons, up to the 31st of March, and is estimated to average at least 150 tons per month from that date to October next.

Valuable discoveries of ore ground have been laid open in clearing out the 31 fathom level, which not only afford produce estimated at 6 to 7 tons per fm., but indicate with something like certainty the advantage to be obtained when the same section of the lode shall be reached in the deeper levels. In the Tanteo, the richest part of the mine, yielding 19 to 12 tons of ore per fm., the workings have been suspended for several months, from the difficulty of draining the water; a level has now been driven under these workings, by which they will be effectually drained and immediately set on tribute. There are at present 12 sets of tributers at work, at an average of 1*l.* 12*s.* 10*d.* per ton, and all doing wel. The quantity of ore in stock has accumulated to upwards of 1000 tons (of 21 cwts.). In explanation of this, the directors have to state that the results of smelting the ore at Newcastle being found more advantageous than its disposal by ticketings, they have continued to forward the subsequent cargoes to that port; 349 tons are now in process of reduction, and the produce is expected to be realised shortly. Further shipments from Spain are also daily expected to arrive, and will be continued until the whole quantity has been cleared off, the current produce of the mine being estimated fully equal to supply the furnaces until the results of smelting the mineral in Spain are satisfactorily ascertained, when, if the estimates of Mr. Henry Thomas are found correct, the works will be enlarged in proportion to the increase of mineral produce.

The directors regret that they have not been able to effect any reduction in cost or improvement in the mode of conveying the ore to the shipping port, and on this account they are the more anxious to effect the reduction of the mineral at Linares, the difference of 25 per cent. on the relative quantity of produce to be carried being an important matter both of economy and convenience. There is every reason to expect that the future operations at the mine will be effected with more economy than has hitherto been practicable, the cost of clearing and securing the old workings having formed a considerable item in the cost-sheets. The complicated arrangement of the machinery, and the absence of ventilation, consequent on the arrangement of the several shafts and winzes, have combined to render the miners' labour difficult and expensive; this has been remedied by carrying down four shafts to the bottom level, and on the recommendation of Mr. Henry Thomas additional machinery has been provided to establish a more powerful lift of pumps in the engine-shaft, which, in the course of the ensuing month, will be completed direct from the surface to the deepest level, and placing the facilities for drainage and working on a footing equal to most mines of equal depth in this country, and it is confidently expected these measures will materially reduce the cost of stores and wages.

It will be remembered that the resolutions of the last half-yearly meeting empowered the directors to issue 4500 additional shares, for the purpose of erecting the smelting-works, and providing the necessary amount of working capital, indispensible to the economical management of the company's affairs. Applications were received, and the whole number of shares allotted; but several persons to whom such allotments were made, failing to complete their contracts within the time limited for the purpose, your directors considering that, under the then favourable prospects of the mine, the issue of 3500 shares would realise all that was actually required for the interests of the association, it was resolved to limit the issue to that number, until it should be satisfactorily ascertained whether the remaining 1000 shares might not be altogether unnecessary.

Reference to the annexed balance-sheet will show the progressive increase in the returns, and it may be necessary to remark that the increase in the costs for the last month has been occasioned by the large purchases of fuel, in order to provide a supply for the engine until September, the Government not permitting the oak to be cut after the foliage appears. With this explanation, it will be seen that the mine is now yielding a steady profit, and that an increase in the amount of produce will only be subject to the costs for tribute and royalty, or according to the present returns, at the rate of 1*l.* 17*s.* 6*d.* per ton at the mine.

On comparing the liabilities and assets, the amount of the former includes all charges to the latest accounts received, and the latter have been carefully estimated in accordance with the results of produce sold, showing a balance in favour of the association, amounting to 986*l.* 18*s.* 11*d.*, without taking into account the value of the engine, machinery, buildings, stores, &c., at Linares, the reserves of ore already opened on in the levels, or the value of the mine itself in its present state, and with its prospective advantages, 1000 shares also remaining to be issued, or cancelled, as may be determined on.

Your directors have to inform you that Mr. Bramwell, finding his avocations prevent him from attending to the affairs of the association, has resigned his seat in the direction. The vacancy arising from such resignation has been filled up by the nomination of Mr. W. Thome, of Barnstaple, a large shareholder, whose extensive connection with Cornish mines, and practical knowledge of both mining and smelting, render him highly eligible for the appointment, which it will be for the present meeting to confirm.

In conlusion, your directors beg to say that they fully anticipate the next half-yearly meeting will realise the hopes with which the undertaking was commenced, and they have to assure you that no effort shall be wanting on their part to advance the interests of the association.

Statement of Receipts and Expenditure, from 30th Sept., 1850, to 31st March, 1851.

Balance in hand last account				£	276 16 7
Received three instalments on 3500 shares					3500 0 0
Fourth and fifth instalments on 10 shares					5 0 0
Original shares					100 0 0
Ore sold—245 tons 8 cwts.					2406 10 5
Smelted at Newcastle, 90 tons 9 cwts.					948 10 7 — £7236 17 7
Mining costs from Oct., 1850, to end of March, 1851				£3957	4 7
Carriage of ore				1404	2 6
Duty and shipping charges				709	7 1
Cost at smelting-works				213	3 0
Balance to next account				953	0 5 — £7236 17 7
LIABILITIES.					
Due to Messrs. Clay and Co. on account				£5984	8 4
Due for machinery and other payments				210	0 5
Balance of assets				4986	18 11 — £11181 7 8
ASSETS.					
Amount due on shares				£1745	0 0
Lead ore at Linares, 336 tons, at 5*l.* 10*s.* per ton				1848	0 0
Ditto at Baylen, 14 tons, at 5*l.* 15*s.* per ton				80	10 0
Ditto at Seville, 212½ tons, at 10*l.* per ton				2125	0 0
Ditto on board ship, 96 tons, at 11*l.* per ton				1056	0 0
Ditto at Newcastle, 349 tons, at 11*l.* 2*s.* 6*d.* per ton				3882	12 6
Cash at Masterman's and Co.				147	6 11
Ditto at office				296	18 3 — £11181 7 8

May 17.—Weighed in, 32 tons 14 cwts.: total in stock, 1008 tons 2 cwts.

The CHAIRMAN stated that they had that morning received notice of the further sale of 120 tons of ore, at 15*l.* 15*s.* per ton, and 1920 ozs. of silver, producing 242*0l.*; that they were now in a situation to smelt 160 tons of ore monthly. There were seven directors, the salary fixed for them being 350*l.* per annum.

Mr. WILSON considered the result of the last half-years' workings had incurred a loss of 1200*l.*; but after much explanation, the fact of 200*l.* included therein was for the smelting works, and 70*l.* for dividend on preference shares.

The CHAIRMAN expressed himself confident that the promises contained in the reports lately received from Mr. Thomas, their agent at the mines, would be fully borne out by the results of the next six months' operations. They had opened a vast deal of new ground, and had two or three very valuable ends to operate upon. The former raisings had been mostly from old workings; an increased quantity of ore, therefore, was certain. An estimate had been made, showing that 116 tons a month would cover the expense. Mr. Thomas assured them they would have from 150 to 160; the tribute and royalty cost about 37*s.* 6*d.* per ton. They had upwards of 2000 tons of ore discovered—average tribute 32*s.*; the ore as risen is worth 5*l.* 5*s.* per ton on the mine, where they had just got into fair working trim. They were clearly working to a small profit, and had 7000*l.* worth of lead on its way from the mines to this country.

Mr. LEON inquired how many shares had been disposed of, and why the accounts were signed by one auditor only?

Mr. ENGLISH explained that he had attended three days to the examination of the accounts, fully expecting Mr. Compton to have joined him, and he had only placed his signature to them a few minutes prior to the hour of meeting. He had, however, every assistance rendered him by the board and secretary, and considered them perfectly correct; still he should wish Mr. Compton, or some other person, to examine them, in order that the whole responsibility should not rest upon him individually. One item especially called for some explanation, as it was not a payment in the natural run of business as regarded the company's affairs—that of Clay and Glipman. It appeared that the board gave them an acceptance for 2000*l.*, taking that number of shares in place thereof; otherwise only 1500 had been issued.

The CHAIRMAN said, that after 1500 had been issued, the remainder not being sought for, they took as explained, and were now ready to let any shareholder that might be desirous have a portion on the same terms—1*l.* each.

Mr. THOMAS WATSON, and several shareholders present, expressed themselves quite satisfied that the directors had acted for the general benefit of the concern. He should, therefore, propose that the accounts and reports be received, adopted, and circulated amongst the shareholders, which was carried unanimously.

The CHAIRMAN stated the greatest charge they had to complain of was that of the carriage from the mine—freight was reasonable enough. The accounts were at all times open to the inspection of the shareholders during office hours.

Mr. THORNE (the newly-created director) stated that being fully conversant with mining accounts, he had carefully examined those of the company, particularly those now exhibited, from which he found they had expended in dead work the sum of 1446*l.* They had made nearly a new mine of it by sinking shafts, exploring levels, and other operations, in order to facilitate the future workings.

Mr. WAINE considered it would be desirable henceforward to prepare the report and accounts for the inspection of the shareholders a week or 10 days prior to holding their meetings.

A SHAREHOLDER suggested that it be recommended to the board for adoption, in the best manner they deemed right, either that they should be left at the office for inspection, published in the *Mining Journal*, or circulated at least a week prior to all future meetings.

The CHAIRMAN stated that it required the sanction of the shareholders to confirm the election of Mr. Thorne as one of the board; that gentleman held 696 shares in the company.—Mr. Thorne's election was unanimously confirmed.

The CHAIRMAN then explained that Mr. Shaw, one of the directors at the mines, had pertenencias adjoining the company's property, which it would be desirable they should obtain: he offered them at cost price—10,000 reals (106*l.* 5*s.*) He was also in a situation to supply them with coal and coke; they could then dispense with the usual quantity of charcoal—1500 quintals annually. He confessed he was rather averse to Mr. Shaw's acting in a double capacity; and thought it was advisable to hint the same to Mr. Shaw, who would, probably, see fit to tender his resignation, to prevent the possibility of unpleasant conjectures. He certainly could supply them as well, or perhaps better, than another party.

The shareholders approving of these steps being taken, the meeting terminated with the usual vote of thanks to the chairman, who returned a suitable acknowledgment.

[*** The report of the meeting of the AUSTRALIAN MINING COMPANY will be found on page 275.]

Current Prices of Metals, Stocks, & Shares.

METAL MARKET, LONDON, MAY 30, 1851.

ENGLISH IRON. *a*	*per ton.*		
Bar, bolt, & square, London	£5 5 0–5 10		
Nail rods	6 2 6–6 15		
Hoops	7 0 0–7 15		
Sheets (singles)	7 12 6–8 5		
Bars, at Cardiff & Newport	4 10 0–4 15		
Refined metal, Wales*	3 5 0–3 10		
Do. anthracite*	3 10 0		
Pigs in Wales	3 0 0–4 0		
Do. do. forge	2 5 0–2 10		
Do., No. 1, Clyde	*net cash* 2 0–2 2 6		
Blewitt's Patent Refined Iron for bars, rails, &c., free on board at Newport*	3 10 0		
Do., do., for tin-plates, boiler plates, &c., ditto	4 10 0		
Stirling's Patent Pig in Glasgow	2 15 0		
Toughened Pigs in Wales	3 10–3 15		
Staffordshire bars, at the works	5 5 0–6 0		
Rails	4 17 6–5 2 6		
Chairs (Clyde)	4 0 0		
FOREIGN IRON. *b*			
Swedish	11 10–1 12 6		
CCND	17 10		
PSI	—		
Gourieff	—		
Archangel	—		
FOREIGN STEEL. *c*			
Swedish keg	14 10–15 0		
Ditto faggot	15 0–15 15		
ENGLISH COPPER. *d*			
Sheets, sheathing, & bolts, *p. lb.*	0 0 9½		
Tough cake	*per ton* 84 0 0		
Tile	£83 0 0		
Old copper *e*	*per lb.* 8¼*d*		
Yellow Metal Sheathing	7½*d*		
Wetterstedt's Pat. Metal	*Cwt.* 1 12 0		
FOREIGN COPPER. *f*			
South American, in bond	77 0–87 0		
ENGLISH LEAD. *g*			
Pig	*per ton* 17 5 0		
Sheet	18 5–18 10		
Pipe	19 0 0		
Red lead	19 0 0		
White ditto	24 0 0		
Patent shot	20 10 0		
FOREIGN LEAD. *h*			
Spanish, in bond	17 0–17 5		
ENGLISH TIN. *i*			
Block	*per cwt.* 4 4 0		
Bar	4 5 0		
Refined	4 10 0		
FOREIGN TIN *k*			
Banca, H. C.	3 18–3 19		
Straits	3 16–3 18		
TIN-PLATES. *l*			
IC Coke	*per box* 1 5 6		
IC Charcoal	1 10 6–1 11		
IX ditto	1 17 0		
SPELTER. *m*			
Plates, warehoused	*per ton* 14 15–14 17		
Ditto, to arrive	14 15–14 17 6		
ZINC. *n*			
English sheet	*per ton* 21 0 0		
QUICKSILVER *o*	*per lb.* 3*s.* 9*d.*		

Terms.—*a*, 6 months, or 2½ per cent. dis.; *b*, ditto; *c*, ditto; *d*, 6 months, or 3 per ct. dis.; *e*, 6 months, or 2½ per cent. dis.; *f*, ditto; *g*, ditto; *h*, ditto; *i*, ditto; *k*, net cash; *l*, 6 months, or 3 p. ct. dis.; *m*, net cash; *n*, 3 months, or 1½ p. c. dis.; *o*, ditto, 1½ dis.; * Cold-blast, free on board in Wales. † Dis. for cash in 14 days, 10 per cent.

WELCH BAR-IRON continues depressed; some small lots held by a speculator have been disposed of at 4*l.* 5*s.*, free on board at Newport. In rails there are large orders in the market, at rates which makers are not disposed to accept.

STAFFORDSHIRE IRON is in small demand for export, but the home trade continues good.

SCOTCH PIG-IRON may be quoted at 6*d.* per ton in favour of the seller; American brands, No. 1, 41*s.*; mixed Nos. storekeepers' warrants, free on board, 39*s.* 9*d.* The gas and water companies are availing themselves of the present low rates, to make their purchases of pipes. The shipments are large, and the stock decreasing, but the production remains undiminished, and according to the opinion of practical men, it may still be produced at present rates, leaving the makers a profit. Wages are lower than there in 1844, when the prices then ruling were 34*s.* to 35*s.* per ton for No. 1 Gartsherrie, free on board in Glasgow; one of the most eminent makers at that period stated, in the House of Commons, that he could then produce it, leaving him a good profit.

SWEDISH IRON.—There are some fine assortments in the market to arrive, suitable for Bombay.—SWEDISH STEEL: No alteration.

COPPER is very firm, and a large business has been done. Some parcels of South Australian have been taken off the market at full rates.

BRITISH TIN is quite neglected; there is but little demand for exportation.

FOREIGN TIN.—Not any transactions have been reported during the week. The approaching sale in Holland in August is expected to be much larger than was supposed at the beginning of the year.

SPELTER.—Not any transactions have been reported. The stock is heavy in London, but unprecedently low at the French depôts.

TIN PLATES are in good demand: they may be quoted at 6*d.* per box dearer.

LEAD is still dull of sale, the last mail from the United States having brought lower quotations.

GLASGOW, MAY 29.—We have to report another dull week in the pig-iron market, and prices have ruled rather in the buyers' favour—39*s.* 6*d.* per ton nett cash being the price of mixed Nos., good brands, free on board here. The shipments, however, are again very large, and will show a considerable increase over the corresponding month of last year; and, as before remarked, there can be little doubt that the low prices here, and the reduced rates and greater facility of carriage to the various ports, and so into distant markets, will cause a much larger quantity of Scotch iron to be used than hitherto, which must displace a very considerable quantity of English or Welsh pig-iron, and the very low and unremunerating rates must eventually lead to a reduction of the make.

Mixed Nos., good brands, free on board here		39*s.* 6*d.*	per ton nett cash.
No. 1	"	39*s.* 9*d.*	" "
No. 1—Gartsherrie	"	40*s.* 9*d.*	" "

The prices of bars, &c. &c., are without alteration.

CURRENT PRICE OF GOLD AND SILVER.

Portugal gold, in coin	*per oz.* £3 17 5	Mexican dollars	*per oz.* £0 4 11¼
Foreign, in bars	3 17 9	Spanish doubloons	3 16 6
Silver, in bars (standard)	*per oz.* 5*s.* 0¼*d.*		

MINES.—The predominant feature of the market is flatness—doubtless caused mainly by the depressed state of Railway Stock and tightness in the money market, which never fails to exercise its influence on all speculative business. Even for the best dividend mines sellers are more plentiful than buyers, but yet the business transacted has been again on a reduced scale. When we consider, however, the large amounts which have been expended during the last two months, on totally worthless concerns, it is not surprising that a check should be given to our market by that cause alone, an evil at the same time conservative in its effects, and which time will modify.

In the Metal Market, Copper moves off firmly and steadily; some parcels of South Australian have been taken at full rates.—Lead quiet, and prices rather easier.—Although without actual transactions in Tin, a better feeling is discernible, and an improvement may be expected.—Tin Plates are in fair demand.—Nothing has been done in Spelter, and the stock has risen to about 15,000 tons.

The London imports during the week comprise—from Adelaide, 1124 cakes, 2674 tiles, and 8725 ingots of copper, 3214 bags, 314 tons, 6 casks, and a quantity of copper ore; Ceylon, 272 barrels, 82 boxes, and 56 casks of plumbago; Stettin, 7416 plates of spelter, 15,310 plates of zinc; Sydney, 246 tons of copper regulus; Calcutta, 414 slabs of tin; Calmar, 800 bars of iron; Hambro, 10,300 plates of spelter, 150 casks of plumbago. The imports at Liverpool include—76 slabs of tin from Singapore, 80 cs. 90 cks. zinc, and 215 brls. nails from Antwerp, 100 tons manganese from Rotterdam, 1366 pigs of lead from Carthagena. At Hull, 1312 plates spelter, and 25 cks. plumbago from Hamburg, 124 ingots, 10 cks., 3 cs. spelter from Antwerp, 4816 bars of iron from Gottenburg, and 3857 from Stockholm, 224 ingots of copper from Rotterdam.

The bar-silver brought by the *Severn*, West India packet, was sold yesterday at 5*s.* 0⅞*d.* per ounce, being a decline of ¼*d.* since last transactions.

Wheal Trelawny sold 100 tons of lead ore to Locke, Blackett, and Co., at 21*l.* 10*s.* 6*d.*—the lowest tender was 19*l.* 12*s.* 6*d.*, by Pontifex and Wood.

The ticketings for above 100 tons of Laxey (Isle of Man) lead ore varied from—Pontifex and Wood, 17*l.* 8*s.* 6*d.*, the lowest, to that of the purchasers, Joseph Walker, Parker, and Co., 19*l.* 18*s.* 6*d.* per ton. Nearly the same quantity of Foxdale lead ore was purchased by Mather and Co., at 12*l.* 9*s.*, the lowest tender being 10*l.* 5*s.* 6*d.*, by Pontifex and Wood.

The ticketings for about 100 tons of Newtonard's lead ore fluctuated from—Pontifex and Wood, 8*l.* 7*s.* 6*d.*, to that of the purchasers, Joseph Walker, Parker, and Co., 10*l.* 7*s.* 6*d.* per ton.

East Wheal Rose sold 22 tons of ore, at 14*l.* 16*s.* 6*d.*, and 19 tons at 14*l.* 6*s.* 6*d.*, to Messrs. T. Somers, and 7 tons to the Tamar Smelting Company, at 16*l.* 3*s.* 6*d.* per ton.

Callington sold 45 tons, at 17*l.* 11*s.* 6*d.*, to Messrs. T. Somers and Co.

Bryntail sold 40 tons of lead ore, at 10*l.* 12*s.* 6*d.* per ton.

Wheal Golden sold 54 tons of silver-lead at 12*l.* 16*s.* 6*d.* to the Tamar Smelting Co., and Sims, Willymans, and Co. (69½*l.* 11*s.*), on 24th May.

Daren Mine sold 21 tons of copper ore to Messrs. Sims, Willyams, Neville, and Co., at 6*l.* 4*s.* per ton, on the 23d inst.

East Wheal George April ores sampled 20 tons 15 cwts., produce 14⅛.

The sampling of Esgair Llee lead ores was computed at 20 tons.

The Tincroft Mine sold 23 tons of tin at 42*l.* 5*s.*, and 2 tons at 24*l.* per ton. The copper ore sampled was 651 tons. The lode in the 100, east and west of Downright shaft, and in the shaft itself, is much improved. The winze in the 90 is looking better.

The Rocks and Treverbyn United Mines sold two parcels of tin on the

24th inst.—17 tons 2 cwts. 3 qrs. 21 lbs., at 53*l.* 10s. per ton, and 17 cwts. 0 qrs. 18 lbs., at 36*l.* per ton—realising 949*l.* 2s. 10d. The officers state, in their report of the 26th inst., that the mines are looking extremely well throughout, especially in the 40 fm. level at each end, and they hope to have the lode in the 50 shortly, when they look to further improvements, after some extensions east and west on its course. In the meantime the question of new heads for the stamps will be duly provided for, so that no time may be lost in the returning department.

DIVIDENDS DECLARED DURING MAY.

Mines.	*Per Share.*	*Amount.*
Devon Great Consols	£8 0 0	£8192 0 0
Wheal Buller	25 0 0	3200 0 0
South Frances	8 0 0	1984 0 0
East Wheal Rose	15 0 0	1920 0 0
Wheal Mary Ann	3 0 0	1536 0 0
Alfred Consols	0 6 0	1536 0 0
Wheal Trelawny	2 0 0	1040 0 0
Treviskey	8 10 0	1020 0 0
Wheal Lovel	2 0 0	860 0 0
West Caradon	2 10 0	641 0 0
South Caradon	2 10 0	640 0 0
Wheal Reeth	2 10 0	600 0 0
Providence Mines	1 0 0	560 0 0
Botallack	5 0 0	500 0 0
Goginan	5 0 0	500 0 0
St. Ives Consols	5 0 0	470 0 0
North Roskear	2 10 0	350 0 0
Wheal Margaret	3 0 0	336 0 0
Trehane	1 0 0	256 0 0
Herodsfoot	0 5 0	256 0 0
Allt-y-Crib	0 2 6	156 0 0
Total		£26,552 0 0

CALLS MADE DURING MAY.

Mines.	*Per Share.*	*Amount.*
Great Polgooth	£1 0 0	£11000 0 0
W. Wh. Friendship	1 0 0	2000 0 0
E. Wh. Basset	5 0 0	1280 0 0
La Min	1 0 0	1024 0 0
Bodmin Wheal Mary	1 0 0	1024 0 0
Gt. Wheal Alfred	1 0 0	1024 0 0
Sydney Godolphin	1 0 0	1024 0 0
Grambler&St.Aubyn	4 0 0	972 0 0
West Tolgus	1 0 0	940 0 0
Wheal Augusta	0 0 0	900 0 0
East Tywarnhayle	3 0 0	768 0 0
Wheal Elizabeth	4 0 0	728 0 0
Hawke's Point	1 5 0	640 0 0
Devon & Courtenay	0 3 0	624 0 0
Hennock	0 7 0	525 0 0
Crane and Bejawsa	2 0 0	512 0 0
Trethevy	1 0 0	512 0 0
Trefusis	1 0 0	512 0 0
East Wh. Leisure	1 0 0	512 0 0
West Frances	1 0 0	512 0 0
Prince Albert	0 10 0	512 0 0
Wheal Crebor	0 10 0	512 0 0
Wheal Sydney	£0 10 0	£512 0 0
Wheal Venton	0 10 0	512 0 0
East Balleswidden	0 10 0	512 0 0
George and Charlotte	0 10 0	512 0 0
St. Aubyn and Grylls	0 10 0	512 0 0
East Wheal Reeth	0 10 0	500 0 0
Wheal Susan	0 10 0	500 0 0
Caradon Vale	0 5 0	384 0 0
Tregorden	0 6 0	336 0 0
Carvannal	0 5 0	264 0 0
South Plain Wood	0 5 0	256 0 0
Moditonham&Marra.	0 5 0	256 0 0
Wheal Sydney	0 5 0	256 0 0
Tremar	0 5 0	256 0 0
West Wheal Virgin	0 5 0	256 0 0
Kingsett & Bedford	0 3 0	153 12 0
Bridford Consols	0 10 0	128 0 0
West Nant-y-Mwyn	0 2 6	127 10 0
Total		£34,802 2 0

Besides calls made in Carwinnin, 10s., and Wheal Rock, 5*l.* per share.

At the Botallack meeting, on Tuesday, the accounts for Jan., Feb., and March showed—Balance last account, 80*l.* 14s. 8d.; ores sold (less dues), 3474*l.* 16s. 3d.; sundry credits, 25*l.* 12s. 7d.=3581*l.* 3s. 6d.—Mine costs and merchants' bills, 2819*l.* 10s. 1d.—By dividend of 5*l.* per share (500*l.*): leaving balance in favour of adventurers, 261*l.* 13s. 5d.

At Wheal Margaret meeting, on Tuesday, the accounts for three months ending March, showed—Balance from last account, 64*l.* 6s. 2d.; ores and materials sold, 3142*l.* 13s.. = 3206*l.* 19s. 2d.—To costs and merchants' bills, 5762*l.* 13s. 8d.; dividend of 3*l.* per share (336*l.*): leaving balance in favour of adventurers, 108*l.* 5s. 6d.

At Wheal Trelawny quarterly meeting, on Monday, the accounts showed —Balance from last account, 494*l.*; silver-lead ores sold, 6434*l.* 14s. 6d. =6928*l.* 14s. 6d.—Three months' cost, end of Feb., 4674*l.* 13s. 8d.: leaves balance, 2254*l.* 0s. 10d.; from which deduct dividend then made, 2*l.* per share, 1040*l.*: leaves balance to next account, 1214*l.* 0s. 10d. Estimated value of Phillips's engine for sale, 450*l.* Trelawny's shaft is down 11 fms. 5 ft. below the 92 fm. level, ground favourable for sinking; the bottom end north worth 8*l.* per fm.; south, 9*l.* per fm.; the 82 north 19*l.* per fm. At the north mine, Smith's shaft is 13½ fms. below the 55 fm. level, in very good ground. The 55 end north worth 9*l.*; the 68 north 7*l.*; and the 78 north 8*l.* per fm. The stopes, and particularly the north mine, are looking well, the profit for the quarter being 1760*l.* 0s. 10d.

At West Wheal Seton meeting, on Monday, the accounts, for March and April, showed—Ores sold (less dues), 438*l.* 12s. 7d.; call in March, 400*l.* =838*l.* 12s. 7d.—Balance from last account, 30*l.* 2s. 3d.; costs and merchants' bills, 707*l.* 11s. 5d.: leaving balance in favour of adventurers of 100*l.* 18s. 11d.

At the United Mines meeting, on the 23d, the accounts showed—Balance from last account, 1476*l.* 13s. 10d.; costs and merchants' bills for March and April, 6084*l.* 9s. 7d. = 7561*l.* 3s. 5d.—By ores sold (less dues), 6230*l.* 1s. 4d.; sundries, 142*l.* 12s. 8d.: leaving a balance against adventurers, 1188*l.* 9s. 5d.

At West Tolgus meeting, on the 22d inst., the accounts for six months ending April showed—Balance last account, 594*l.* 2s. 9d.; costs and merchants' bills, 851*l.* 1s. 8d.=1445*l.* 4s. 5d.—By call in Nov., 940*l.*: leaving balance against adventurers, 505*l.* 4s. 5d.—amounting to 10s. 9d. per share, and a call of 9s. 3d. per share was made for further prosecution of the mine.

At West Wheal Frances meeting, on Tuesday, the accounts for Dec., January, February, and March, showed—Balance from last account, 297*l.* 3s. 11d.; costs and merchants' bills, 570*l.* 7s. 10d. = 867*l.* 11s. 9d.—By call in Dec., 768*l.*: leaving balance against adventurers, 99*l.* 11s. 9d. A call of 1*l.* per share was made.

At Trethellan meeting, on Tuesday, the accounts showed—Mine cost for Jan., Feb., March, and April, 408*l.* 0s. 5d.; merchants' bills, 220*l.* 10s. 1d, =628*l.* 10s. 6d.—By copper ores sold, Jan. and March (less 1-15 lord's dues, 34*l.* 7s. 1d.), 481*l.* 0s. 2d.; sundry credits, 104*l.* 15s. 5d.: showing loss, 42*l.* 14s. 11d.; which, deducted from balance in favour last account, 169*l.* 18s., leaves to next account, 127*l.* 3s. 1d.

At West Trethellan meeting, on Tuesday, the accounts showed—Mine cost for January, February, March, and April, 141*l.* 9s. 2d.; merchants' bills, 51*l.* 16s. 3d.=193*l.* 5s. 5d.—Copper ores sold 26th Dec. (less 1-15th lord's dues, 2*l.* 12s. 4d.), 36*l.* 13s. 3d.: showing loss, 156*l.* 12s. 2d., which, deduct from balance in favour last account, 183*l.* 12s. 6d., leaves to next account, 27*l.* 0s. 4d.

At Tresavean meeting, on Tuesday, the accounts showed—Mine cost for March and April, 1447*l.* 6s.; merchants' bills, 629*l.* 9s. 1d.=2076*l.* 15s. 1d. —Copper and tin ores sold, Feb. and March (less lord's dues, 61*l.* 14s. 3d.), 1172*l.* 14s. 1d.; sundry credits, 695*l.* 15s. 2d.: showing loss, 208*l.* 5s. 10d.; balance against adventurers last account, 467*l.* 18s. 4d.=676*l.* 4s. 2d.—By call received, 886*l.* 1s. 5d.: leaves balance now in hand, 209*l.* 17s. 3d.

At South Dolcoath meeting, yesterday (Peter Stainsby, Esq., in the chair) the accounts showed—Balance last account, 1271*l.* 10s. 6d.; costs for Jan., 97*l.* 15s. 9d.; Feb., 106*l.* 5s. 3d.; March, 65*l.* 17s. 6d.=1541*l.* 9s.; less call, 1100*l.*: leaves balance to next account, 441*l.* 9s.; and excess of liabilities over assets, 854*l.* 17s., arrear of call included. The report and resolutions will be found in another column. The directors were duly authorised to appoint a competent agent, at a salary not exceeding 7*l.* 7s. per month, who shall reside near the mine, and perform the several duties of captain, clerk, and storekeeper; to increase the costs for the next two months to 150*l.* per month; and to make a call of 1*l.* per share.

At West Wheal Virgin meeting, on the 23d inst., the accounts showed —Balance last account, 94*l.* 1s. 11d.; call, 71*l.* 16s.=165*l.* 17s. 11d.—Mine cost two months, 49*l.* 6s. 10d.: leaves balance to next account, 116*l.* 11s. 1d. A call of 5s. per share was made, which, included in the estimated assets of 351*l.* 2s. 7d., liabilities 345*l.* 5s. 5d.. leaves balance in favour of adventurers, 5*l.* 17s. 2d. Mr. Adam Murray's report had, in consequence of his recent illness, not been received.

At East Balleswidden meeting, held on the 22d instant, the accounts showed—Balance last account, 108*l.* 12s. 9d.; call received, 167*l.* 5s.= 275*l.* 17s. 9d.—Mine cost, end March, 221*l.* 2s. 6d.: leaves balance in hand to next account, 54*l.* 15s. 3d. A call of 10s. per share was made, which, with ore in stock and arrears due on call, makes estimated assets, 564*l.* 5s. 3d.—Liabilities to merchants, 221*l.* 3s. 9d.; cost for April and May, 270*l.*: leaves balance in favour of adventurers, 73*l.* 1s. 6d. Mr. Adam Murray's report was not received, in consequence of his illness.

At a special general meeting of adventurers in Wheal Benny, on Thursday (Peter Davey, Esq., in the chair), a proposition was made (in the terms of the circular) for the sale of the mine, with all materials and appurtenances, to the proprietors of the Lamberooe Wheal Maria, and others, for 500*l.*, which was agreed to unanimously.

At the Prince Albert Tin Mine meeting, on Monday, a report from Capt. John Davies was read (given among our Mining Correspondence), when it was resolved to erect a steam-engine forthwith, and a call of 10s. per share was made.

At the Wheal Crebor special meeting, on Tuesday last, the supplementary report of the committee of management (which will be found in another column) was read and agreed upon, and ordered to be printed and circulated among the shareholders. The committee were duly authorised to purchase and erect a steam-engine, for the purpose of more effectually working at the deeper levels. A call of 10s. per 1024th was made, payable on or before Thursday, the 12th June, the shareholders present being unanimously of opinion that the less number they were in the more respectable would be the class of shareholders; and if they were likely to have a good mine, why not keep it among themselves.

At the ordinary two-monthly meeting of shareholders in Bodmin Wheal Mary Consols, on Wednesday, the accounts showed—Balance from last account, 89*l.* 13s. 10d.; call of 2*l.* per share on 824 shares, 1648*l.*; ores sold (less dues), 133*l.* 15s. 10d.=1871*l.* 9s. 8d.—Cash due to purser from last account, 163*l.* 15s. 9d.; March and April cost, including 300*l.* paid on account of engine, 1034*l.* 15s. 10d.: leaving balance in favour of adventurers, 672*l.* 18s. 1d. A call of 1*l.* per share was made to pay the balance (697*l.*) owing on account of the 50-inch cylinder engine. A report from Capt. Kernick was read, which stated an important discovery had been made on No. 1 lode. An ancient level, supposed to have been driven 100 years ago, has been cut into, and upon examination it is found that the old miners had driven on the side of the lode, and the water having crushed and broken down, the level in many places is full of valuable ore: there is a vast quantity altogether in sight.

At the two-monthly general meeting of adventurers in Wheal Venton, on Monday, the accounts showed a balance in hand of 80*l.* 5s. 10d., and a balance of liabilities over assets of 216*l.* 6s. 3d. A call of 10s. per share was made, payable forthwith. Reports on the mine will be found among our Mining Correspondence.

At St. Aubyn and Grylls meeting, the accounts showed a balance of 352*l.* 3s. 7d. against adventurers, and a call of 10s. per share was made.

At Wheal Augusta meeting, on the 23d instant (Dr. Heathcock in the chair), the accounts showed—Balance from last account, 26*l.* 15s. 9d.; calls received, 366*l.* 18s.=393*l.* 13s. 9d.—Mine costs to two months, 130*l.* 8s. 11d.: leaves balance to next account, 263*l.* 4s. 10d.—The estimate of assets are—Ore in stock, 60*l.*; arrears of call, 213*l.* 5s.; call now made, 900*l.*=1436*l.* 9s. 10d.—The liabilities were—Costs and bills to 30th March, 332*l.* 1s. 11d.; costs, April and May, 200*l.*: showing balance in favour of the adventurers, 904*l.* 7s. 11d. The report had not been received from Mr. Adam Murray, in consequence of his recent illness; but he entertains such a high opinion of the mine and its prospects, that the managing agent received instructions to procure a suitable steam-engine, for the purpose of giving the concern an effectual trial in depth; for which purpose a call of 10s. per share was made.

At a meeting of the Trial Mining Company of Downshire, on Saturday, Mr. G. Tyrell stated that it owed its origin to the Marquis of Downshire himself, who had been for years endeavouring to develope the mineral and other resources of Ireland; and comparing the strata upon his estates with those in various parts of England, the result induced him to bring over Mr. Pickering, an engineer, to effect a proper survey. The result being satisfactory, his lordship sunk a shaft at Carrickfergus, and had opened a valuable lead mine at Dundrum. Strong indications of coal being found near the town, his lordship convened a meeting of the gentry around; a committee was appointed, the share-list entirely filled up, and resolutions were accordingly entered into for the future management of the company, and anticipations of an early successful result seemed generally entertained by those present.

At the Halamanning and Croft Gothal Mines forthcoming meeting, it is contemplated to divide the 100*l.* shares (20*l.* paid), into 5*l.* shares, and to issue those remaining unsubscribed for—the object being to raise further capital to vigorously prosecute the workings, which hitherto, it is stated, have been satisfactory.

At Great Polgooth, in sinking the winze under the 84, they have met with a slide, which has heaved the lode 2 ft. south, where it is again met with very good. The stopes in the bottom of the level, on the south lode, present a very satisfactory appearance; the lode is large, and rich in quality. Several ends are now in active progress towards some important objects in the meantime; and the general feature of the mine is improving satisfactorily.

Good progress is being made in driving the great Day level at the Minera Mines, Wrexham. This and the machinery for the drainage of the mines will, it is expected, be completed by October next.

At West Phœnix Mine they will set the engine to work on Monday week.

At Wheal Williams, the 45-in. steam-engine is expected to be at work in about a fortnight. The operations are being carried out actively—the pitwork, flat-rods, &c., being mostly delivered on the mine, and the necessary buildings progressing towards completion. From its close proximity to Devon Great Consols, and being on the same lodes, a very general opinion is entertained of the good success of this adventure.

At Wheal Fanny, the shaft is down about 11 fms., the country being a very congenial killas, and easy for sinking.

At East Wheal Russell the shaft is sunk about 27 fms., the lode looking even better than ever. A new 40-in. steam-engine is in course of construction for this mine, and will be erected in a few months.

At Boringdon Park Mine, the dressing will commence on Monday; and a good parcel of rich silver-lead ore may be expected to be ready for market shortly. In the 40 fm. level, east of Hitchins's shaft, the north part of the lode is 8 feet wide—about 2 ft. of which is good saving work; the engine-shaft is 6 ft. under the adit. The new 40-in. steam-engine is expected on the mine in about six weeks.

At the Tamar Silver-lead Mines, the 205 end is turning out well—in fact, better than anticipated; the sampling looking fair to be 90 to 95 tons.

From Cardiganshire, we learn that there are very considerable improvements in the Bronfloyd Mine. In Daren, Allt-y-Crib, and Caegynon, there is nothing particularly new; but the ore ground continues very productive. At Court Grange, the 40 fathom level has been holed to the western winze at Pen-y-cefn—thus affording increased facilities for raising ore. At the Bwlch Consols, the 45 is in ore ground, worth 15*l.* per fm., and the stopes yield 22*l.* worth of ore per fathom; the profits amount to about 150*l.* per month.

Mr. Adam Murray, jun., and Capt. Northey are now upon the Great Cowarch Silver-lead Mine, laying out the ground for the new engine-shaft. Mr. Murray has re-surveyed the underground workings, and reports "that he is quite confirmed in his statements as regards the value of the property."

During the past week, shares have been sold in the following mines:—Balnoon Consols, Bedford, Bodmin Consols and Wheal Mary, Bryntail, Butterton, Carn Brea, Condurrow, Cook's Kitchen, Craddock Moor, Crane and Bejawsa, Cwm Erfin, Devon Consols, Dolcoath, Drake Walls, East Basset, East Buller, East Pool, East Crofty, South Caradon, South Basset, Spearne Consols, St. Aubyn and Grylls, Treviskey, West Providence, West Tolgus, Wheal Mary Ann, Wheal Tremayne, Tincroft, Wheal Crebor, Kenmare, and Wheal Venton.

Independent of business in the Exchange, we have to report transactions elsewhere, received from other correspondents:—Bodmin Wheal Mary, 11*l.*; Allt-y-crib, 10*l.*; Cageynon, 5*l.*; Cwm Sebon, 5*l.*; Penhriew, 4*l.*; St. Aubyn and Grylls, 4*l.*; East Pool, 155*l.*; Treviskey, 188*l.*; East Leisure, 12*l.* to 15*l.*: South Frances, 275*l.*; North Basset, 12*l.*; Dolcoath, 16*l.* 10s.: Wheal Comfort, 50*l.*; North Tolgus, 15*l.*; East Tolgus, 10*l.*; West Frances, 10*l.*; Stanagwyn, 3*l.*, 1*l.* 10s.

In Foreign shares, business has been done in Australian, Copiapo, Cobre St. John del Rey, Imperial Brazilian, and United Mexican.

From the Alten Mines, the accounts down to the 7th inst. show an increased produce, though the improvements in the levels seem but gradual. The Raipas ore is dredgy; it is the middle sink in the Old Mine that appears to be doing all for them at present; the ore is more fusible, and looking permanent as to returns. Slungi's and the north-east sink continue to improve.

At the Australian Mine meeting, on Thursday, the recommendations contained in the report of the Committee of Management were entered fully into and discussed, the result of which terminated in the whole of them being adopted, and resolutions for carrying them into immediate effect were unanimously carried. Mr. Masterman was solicited to resume his seat in the direction, and two of the committee (Messrs. Davis and Shepherd) were nominated as proper candidates for the two other vacancies in the board. A special meeting was called for the purposes of election; and a full account of the proceedings will be found in another column.

At Linares meeting, yesterday (of which a full account will be found in another column), the accounts showed a balance of assets over liabilities amounting to 4986*l.* 18s. 11d. The prospects at the mines are very favourable. About 116 tons of ore per month were estimated to pay the regular costs. The agents promised 150 tons, and the prospect of a considerable quantity beyond that may shortly be calculated upon.

ACCIDENTS.

Ballenwidden Mine.—As a miner named Tregear was descending at greater speed than requisite, the rope not being long enough, he was precipitated to the bottom and broke one of his legs.

Ding Dong Mine.—J. Richards was seriously injured by a fall of rubbish.

Llanelly.—W. Clement, J. David, and his son, were seriously injured by an explosion of fire-damp at the Llandafen Colliery.

Tampering with the Davy Lamp.—On Monday an inquest was held by J. M. Favell, Esq. at the Halfway House, Southwick-lane, on the body of John Wilson, pitman, aged 28, Deceased and a fellow-workman were at work at Monkwearmouth Colliery, about a week ago, when one of them incautiously unscrewed the top of his Davy Lamp. The atmosphere was instantly on fire, and the men enveloped in flames, and both severely burnt.—The deceased lingered until last Saturday, when he expired.—*Gateshead Observer.*

We learn by the *Sunderland Herald*, that a similar accident occured at Washington Colliery; a fall having taken place in the roof, two of the old experienced wastemen, named Smith and Brown, one of whom had been 55 years employed at the colliery, left their Davy-lamps and proceeded with lighted candles to survey the fall. The consequence was that the gas fired at the candles, and both the men were killed.

LEAD ORES

TICKETINGS FOR ABOUT 100 TONS NEWTONARDS LEAD ORE.

Bidders. *Douglas, Isle of Man, 27th May.*	*Price per Ton.*
Walker, Parker, and Co.—Dee Bank (purchasers)	£10 7 6
Tamar Smelting Company—Becralston	10 0 0
Thomas Somers—Bristol	8 8 6
Sims, Willyams, Nevill, and Co.—Llanelly	10 5 6
Newton, Keates, and Co.—Bagillt	10 3 6
J. P. Eyton—Llanerchymor	10 0 0
Pontifex and Wood—London	8 7 6
Locke, Blackett, and Co.—Newcastle	10 0 0

TICKETINGS FOR ABOUT 100 TONS LAXEY LEAD ORE.

Bidders. *Douglas, Isle of Man, 27th May.*	*Price per Ton.*
Walker, Parker, and Co.—Dee Bank (purchasers)	£19 18 0
Mather and Co.—Bagillt	19 12 0
Newton, Keates, & Co.—Bagillt	19 0 0
John P. Eyton—Llanerchymor	18 3 0
Sims, Willyams, Nevill, and Co.—Llanelly	19 12 0
Thomas Somers—Bristol	18 1 6
Tamar Smelting Company—Becralston	18 18 0
Pontifex and Wood—London	17 8 6
Locke, Blackett, and Co.—Newcastle	19 6 0

TICKETINGS FOR ABOUT 90 TONS FOXDALE LEAD ORE.

Bidders. *Douglas, Isle of Man, 27th May.*	*Price per Ton.*
Mather and Co.—Bagillt (purchasers)	£12 9 0
Walker, Parker, and Co.—Dee Bank	12 7 6
Newton, Keates, and Co.—Bagillt	11 15 0
Sims, Willyams, Nevill, and Co.—Llanelly	11 18 6
Thomas Somers—Bristol	11 0 0
Tamar Smelting Company—Becralston	11 2 6
Pontifex and Wood—London	10 5 6
Locke, Blackett, and Co.—Newcastle	11 7 6

Sold at Liskeard, on the 24th of May.

Mine.	*Tons.*	*Price per Ton.*	*Purchasers.*
Wheal Trelawny	100	£21 10 6	Locke, Blackett, & Co.

Ticketings at the King's Head Hotel, Holywell, on the 29th May.

Pant-y-mwyn	30	£10 10 0	Walker, Parker, & Co.
Pen-yr-henblas	52	10 17 0	Newton, Keates, & Co.
Westminster	70	11 6 0	Walker, Parker, & Co.
ditto	70	11 6 0	ditto
Jamaica	40	8 17 6	Newton, Keates, & Co.
Maesysafn	85	11 0 0	Walker, Parker, & Co.
Milwr	25	10 13 0	J. P. Eyton.
Halkin Hall	10	11 1 6	Walker, Parker, & Co.
Strontian	50	11 5 6	ditto
Black Craig	40	9 16 0	ditto
ditto	3	5 5 0	Newton, Keates, & Co.
Cairnamore	20	10 10 0	Mather & Co.
ditto	20	10 10 0	Newton, Keates, & Co.
Craig-y-mwyn	17	11 8 0	ditto
Bwlchgwyn	45	10 18 0	ditto
ditto	15	11 0 0	Walker, Parker, & Co.

Sold at the Mine.

East Wheal Rose	22	£14 16 6	T. Somers.
ditto	19	14 6 6	ditto
ditto	7	16 3 6	Tamar Company.
Callington	45	17 11 6	T. Somers.
Bryntail	40	10 12 6	Sims, Willyams, & Co.

BLACK TIN.

Mines.	*Tons c. qr. lbs.*	*Price per Ton.*	*Purchasers.*
Rocks and Treverbyn	4 7 3 20	£53 10 0	Enthoven & Co.
ditto	4 19 3 21	53 10 0	Daubuz.
ditto	0 8 0 7	38 0 0	Ditto.
ditto	7 15 0 8	53 10 0	Williams & Co.
ditto	0 9 0 11	36 0 0	Ditto.
Tincroft	23 0 0 0	42 5 0	Union Smelting Company
ditto	2 0 0 0	24 0 0	ditto
ditto	23 0 0 0	42 5 0	Daubuz and Williams.
ditto	2 0 0 0	24 0 0	Calenick Smelting Co.

COPPER ORES.

Sampled May 14, and Sold at the Royal Hotel, Truro, May 29.

Mines.	*Tons.*	*Price.*	*Mines.*	*Tons.*	*Price.*
United Mines	129	£7 0 0	Par Consols	71	£5 9 6
ditto	108	4 4 6	ditto	49	4 17 0
ditto	100	4 0 6	ditto	43	4 3 6
ditto	98	3 2 0	Treviskey	94	6 6 0
ditto	97	4 2 6	ditto	83	6 16 0
ditto	82	6 12 0	ditto	68	3 14 0
ditto	77	5 14 6	ditto	51	1 14 0
ditto	68	6 12 0	ditto	48	6 6 0
ditto	56	4 2 6	ditto	43	6 2 0
ditto	33	3 15 6	South Caradon	88	8 1 6
Perran St. George	80	3 14 0	ditto	68	7 12 0
ditto	77	4 0 0	ditto	47	5 10 6
ditto	76	3 16 0	ditto	35	7 14 0
ditto	72	2 8 6	ditto	32	4 11 0
ditto	59	2 2 6	South Tolgus	94	3 19 6
ditto	57	2 4 0	ditto	39	2 18 0
ditto	54	6 11 0	ditto	35	6 6 0
ditto	45	1 16 0	ditto	26	12 10 0
ditto	44	3 1 6	Trethellan	59	2 16 0
ditto	42	3 1 6	ditto	49	3 14 0
ditto	40	1 16 0	Treleigh Consols	44	6 4 0
ditto	39	1 14 6	ditto	37	3 10 6
ditto	18	1 14 0	ditto	21	1 18 0
Consolidated	110	4 12 6	Wh. Mary, Redruth	58	4 0 6
ditto	100	4 6 6	ditto	10	1 17 6
ditto	95	6 2 0	Wheal Ellen	44	5 10 0
ditto	94	4 6 6	ditto	17	2 4 0
ditto	59	4 16 0	Bodmin Wh. Mary	59	2 12 0
ditto	56	7 6 0	Gonamena	30	7 4 0
ditto	54	2 12 0	Wheal Clifford	29	5 8 6
Par Consols	80	6 7 0	Carthew Consols	21	4 1 6
ditto	79	2 4 0	Wheal Penhale	7	3 0 0
ditto	77	5 2 0			

TOTAL PRODUCE.

United Mines	842	£4227 7 6	Treleigh Consols	102	£443 2 6
Perran St. George	703	2187 4 0	Wh. Mary, Redruth	68	252 4 0
Consolidated Mines	568	2759 14 0	Wheal Ellen	61	279 8 0
Par Consols	399	1880 8 0	Bodmin Wh. Mary	59	153 8 0
Treviskey	387	2059 12 0	Gonamena	30	216 0 0
South Caradon	270	1902 3 6	Wheal Clifford	29	157 6 6
South Tolgus	194	1030 11 0	Carthew Consols	21	85 11 6
Trethellan	108	346 10 0	Wheal Penhale	7	21 0 0

Average Standard ..... £103 6 0 | Average Produce 7¼
Average Price per ton £4 14 6
Quantity of Ore ..... 3848 tons | Quantity of Fine Copper, 276 tons 14 cwts.
Amount of Money £18,001 10 6
LAST SALE.—Average Standard ..... £95 5 0.—Average Produce 9¼
Standard of corresponding sale last month, 103*l.* 9s.—Produce, 7¼.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	*Amount.*
Mines Royal	251	£1418 19 3
Vivian and Sons	602	3396 11 6
Freeman and Co.	494	1816 2 6
Pascoe Grenfell and Sons	604	2559 5 6
Sims, Willyams, and Co.	521	2506 3 6
Williams, Foster, and Co	904	5194 15 0
Schneider and Co.	271	1174 18 3
Mason and Elkington	201	934 17 0
Total tons	3848	£18,001 10 6

Copper ores for sale on Thursday next, at Tyack's Hotel, Camborne.—Mines and Parcels.—Tincroft 651—Wheal Seton 559—Wheal Basset 556—East Wheal Crofty 421—North Pool 415—Camborne Vean 381—East Pool 333—Condurrow 313—Fowey Consols 230—South Frances 233—North Roskear 215—Dolcoath 156—West Fowey Consols 93—Fendarves Consols 40s.—Total 4375 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels:—Carn Brea 813—Tywarnhayle 622—Wheal Buller 441—Par Consols 327—Alfred Consols 263—Polberro 184—Levant 155—West Wheal Treasury 143—Wheal Agar 118—Wellington Mines 103—Providence Mines 102—Botallack 84—West Wheal Seton 81—South Wheal Speed 46—St. Aubyn and Grylls 38—West Alfred Consols 37—Wheal Friendship 14—Relistian 7—South Wheal Fortune 6—East Wheal Treasury 5—Wheal Tehidy 5—Spearn Moor 4.—Total, 3594 tons.

At SWANSEA for Sale June 3.—Berehaven, 717—Cuba, 490—Knockmahon, 369—Australian, 65—Kaw-aw, 54—New Zealand, 53—Sydney, 7.—Total, 1735 tons (91 cwts.)

STANAGWIN MINE.—The reply to the letter of Captain Puckey reached us too late for our present Journal.

NOTICES TO CORRESPONDENTS.

"A Young Miner" (Tavistock).—The mining laws of Prussia are based on the Code Napoleon as relates to working mines, are in themselves sufficient proofs of the humane interest and paternal consideration by which the Government is actuated, and are particularly worthy of the notice of all who have the welfare of our mineral districts at heart. They embody the appointment of surgeons of mines, the establishment of medical emporiums, provided with everything required in cases of serious accidents, &c.; they forbid the employment of females in the works, either underground or at surface, or that of any boy who cannot produce certified proof that he has passed his 13th year; —our enactments permit their labour in the mines at 10 years of age. The Davy lamp is imperatively ordered in all the mining provinces where explosive gas is known to exist, and minute instructions are given to the workmen as to the precise mode of using it; also on ventilation, and the means of protecting themselves against the dangers incidental to their various avocations.

"C. A. S." (Cuorgné, Piedmont).—There are but few works which treat only of metallurgy; the most useful for the purpose required would be the last edition of Dr. Ure's "Dictionary of Arts, Manufactures, and Mines"—Mitchell's "Manual of Assaying" should also be procured.

"A shareholder" (Richmond).—We have no means of obtaining the information; apply to the secretary, perhaps he will supply, at least, some of the particulars.

"W. P. C."—The parish of Calstock includes 200 acres of the bed of the River Tamar. The duchy manor is co-extensive with the parish, and is one of those sold in 1798 to pay off the land tax. The highest ground is Calstock Downs, part of Kingston, and is about 800 feet above the sea level. Many copper and tin mines have been worked there, the lodes abounding therein. The soil rests partly on granite and partly on micaceous slate, the latter being traversed in several places by courses of elvan.

"B." (Boulogne).—We are, of course, as perfectly aware of the injustice of the Patent Laws as "B," but there is such a thing as injudicious haste, however urgent may be the necessity of reform. "B" ought to know that a bill is at present before Parliament of a somewhat comprehensive nature; and although it may not, probably, give all that is just, it would be wise to watch its progress, before other steps are taken.

THE THERMO-ELECTRIC TELEGRAPH APPARATUS is an invention for the prevention of steam-boiler explosions, and is thus described by Mr. Dunn, of Worcester, the patentee:—"My apparatus is merely a thermometer properly arranged so as accurately to tell the temperature of the boiler. I have worked boilers at 50 lbs. and 80 lbs. on the inch for years fitted up in this manner, where, from the nature of the ingredients used, valves and pressure guages were useless, and I never had a single instance where the thermometer mislead me. So great is my confidence in the thermometer, that I had rather work a boiler fitted with one than with all the safety-valves and guages in the world; not that I would by any means discard the use of valves and guages, but they should all be checked and looked after by their master—the thermometer. Now, the thermometer, as here described, is all that is required for safety, if the engineer will but look at it; but, unfortunately, the most careful men will at times neglect to do so. I have myself, when working by thermometer, frequently been called away on some other business, and, on my return, have found it five or ten degrees higher than it ought to have been."

"G. S." (Mitre-court).—The cost of obtaining a patent in Denmark, which comprises the Duchy of Schleswig, is about 5*l.* sterling.

"S. S. S."—Warleggan is in East Cornwall. In the northern part of the parish, for about 500 acres, the soil rests on granite, the remainder being principally clay-slate. The highest ground is Caburrrow Tor, 920 feet above sea level. The top of the burrow is 20 feet higher.

"An Unfortunate Adventurer" (Manchester).—Where a landowner digs for, procures, and sells the ore of mines on his estate, or a tenant, or joint tenant, or tenants in common of land work mines, either by their several means, or by a union of capital in one common fund, neither proprietors or tenants come under the denomination of "traders," so considered under the Bankrupt Laws. But in those cases where a tenantry is established for the sole or chief purpose of mining as a primary object, or companies formed expressly and essentially to promote such speculations, and obtain licenses to work on lodes, or leases of lands or minerals, or both, for like purposes, they are held by the law to be "trading partnerships:" but, owing to the particular risks, difficulties, and expenses attendant on mining, they are considered so in a modified sense: discipline is relaxed, and they possess the freedom of action which the law, under all circumstances, appears to accord, in a greater or less degree, to associations founded for the prosecution of mineral labour.

"A. G." (Leamington Spa).—Our correspondent suggests the carrying on experiments in the mineral districts with the voltaic battery, for the purpose of tracing out metallic veins, which he appears to consider would convey the current across the country, and act on the galvanometer at any distance, thus showing their direction, and enable a map to be formed of the mineral wealth of a district, without costeaning or inspection over its whole surface. The stratum generally is too good a conductor to allow the current to follow the direction of the veins, which at times are far from running in straight lines, but subject to bends and contortions. It is also necessary to ascertain the dip or underlay, so that we do not think much can come of the suggestion, but insert it for the consideration of others. Mr. Crosse, the eminent electrician, Mr. Henwood, and other scientific men, have devoted much time to studying the natural currents of electricity which permeate the earth, and although they found in all cases they were present in metallic mineralised veins, they but feebly affected the galvanometer.

COMPRESSED-AIR ENGINE FOR MINES.—SIR: In your Journal for the 12th October, 1850, (page 490) is an article on compressed-air engines for mines. Will you allow me to ask, through the medium of your interesting Journal, how many horse-power the engine and boiler alluded to were able to work? Any information on this subject from your correspondents would be highly esteemed.—G. A.: *Barnsley, May 27.*

"C. P. C."—Perranarwothal is about half-way between Truro and Falmouth. The highest part of the parish is about 290 ft. above high-water mark, and the lowest is bounded by the navigable waters of Restorquet Creek. The soil throughout rests on clay-slate, intersected by several elvan courses. Some poor lodes of copper, tin, and lead traverse the ground, but none of them hitherto have repaid the cost of working.

"A Traveller" (Brook-street).—The concession for the railroad from Christiana to Lake Miösen, has been granted to Messrs. Ricardo, Peto, and Brassey. The engineers are Messrs. Stephenson and Bidder. Mr. John England surveyed the line in 1847. Mr. Bidder intends starting to the scene of operations in about 14 days.

WATER-WHEEL.—What is the power of a water-wheel 30 feet diameter and 6 feet breast, 30 ft. being the greatest amount of fall obtainable, and would any advantage be gained by erecting a wheel of larger diameter, and if so, what should that diameter be?

"A Subscriber" (Tenby).—Charcoal pig-iron is made at Ulverstone; in general it is sold at about 2*l.* 2*s.* above the ordinary price of common pig-iron. Messrs. Ainsworth and Co., we believe, are the manufacturers, and the required information could be obtained by applying to them.

"J. M." (Chesterfield).—There is no possibility of obtaining the amount of silver in lead ores sold at the ticketings. We have inquired of several of the mine adventurers, and find that the smelters require that they should not even state the produce of either lead or silver, considering this an agreement among themselves, in which the public are not interested. Acting on this principle, several adventurers have refused to give us the per centage of their ores; possibly a personal application to the mines might be more fortunate.

"A Manufacturer" (Birmingham) writes—"I should feel obliged if the patentee, or other parties interested, would furnish your readers with a description of Wetterstedt's patent metal. I have heard it frequently spoken of, but have been unable to obtain particulars of its composition, application, or price."

ATMOSPHERIC INFLUENCES.—A correspondent ("F. G. S.," Oxford), remarking on the theories attempted to be promulgated by Mr. Coxworthy in his numerous communications to the *Mining Journal*, says:—"The ideas which pervade his first series of writings on *Electrical Condition* (as it is termed) are all mere assumptions. He forms a system from mere imaginary deduction, without a single experiment to guide him in his researches, in opposition to known philosophical facts; and while throughout his communications numerous other such fallacies exist, I will here mention one:—Mr. Coxworthy is continually harping on the idea that electricity is identical with cold, and not with heat; while I doubt his capability to point out a single instance where any eminent electrician ever attempted to show that it was 'identical with heat.' The true electrical theory is, that the fluid pervades all bodies, but that heat and friction are the most active agents for its development. In his *Atmospheric Influences*, also, a series of most ridiculous assumptions as to 'carbonic acid atmospheres,' 'oxygen atmospheres,' and 'nitrogen atmospheres,' to support some grotesque ideas as to the formation of rocks, minerals, &c., pervade his writings."

*** We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

*** It is particularly requested that all communications may be addressed—
TO THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.
And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, MAY 31, 1851.

The MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

As any information of new adventures, or old ones, in districts but little known to the mining public will, we are sure, be always perused by our readers with interest, and more particularly as showing the high influence and utility of the MINING JOURNAL as a vehicle through which an insight may be obtained into every description of mining enterprise, it is with much pleasure we are enabled, through a valuable correspondent in the north, to give a general view of the state and prospects of many undertakings in Westmoreland and Cumberland—at present very little known, arising from a reluctance to supply reports; the cause being, that the most successful companies are generally composed of few partners, and as the shares in these good concerns are seldom sold, they prefer keeping the state of their affairs, profits, &c., as private as a common business partnership. In mines of this kind the agents are fearful of giving information, lest they should offend the partners; but we have reason to hope, that, from time to time, we shall succeed in obtaining reports from several quarters with which our readers have hitherto been unacquainted.

From another class of mines, where there are from 30 to 60 members, the obtaining a knowledge of their state is equally difficult—few but the agent knowing any thing of the progress, and he being not unfrequently an uneducated man, and paid a monthly salary, it is, of course, his interest to keep the trials going as long as the partners will pay up; in many cases, much longer than the indications warrant—the reports being verbal ones, made at private meetings. Still there are honest agents, and good trials going on.

At the Lakes, mining has been but little followed. There are only two extensive concerns—the Coniston Copper Mines, managed by Mr. BARRETT, from Devon, the principal shareholder, and the Greenside Lead Mine, an excellent concern, near Patterdale, raising about 6000 bings of ore per annum, and employing 300 men. There are a great number of promising veins in the district deserving of spirited trials, which may be made at a light cost, as the hills favour the workings by levels. Capital alone is wanted; and it appears likely that the union of a few wealthy individuals from a distance might reap good returns.

In the Blackburn Mine, Cumberland, there are about 20 east and west veins passing through it—many of which have been rich and bear ore at surface; reports of this and the Helvellin Mine, in Westmoreland, appeared in the "Mining Correspondence" of last week's Journal.

At Alston, Teasdale, and Weardale Mines, we understand a very bad practice is adopted in paying the men by subsist, and settling the accounts at periods varying from three months to a year—the greater number adopting the latter period. It is a most expensive mode, and very discouraging to the men. The remoteness of the pay in most cases tends to cause in the men indifference to their work, and they gradually fall into lazy habits. At Blackburn and Coniston, we believe, they make monthly payments both for men and materials. It is not necessary to say anything of the plumbago mine in Borrowdale, as the concern is kept too close to obtain any particular information. A new vein has, however, been discovered, producing from the matrix 10 per cent. of plumbago, and which will shortly be put to work.

Among the numerous causes of the loss of life in colliery and other mining districts, is one by which the danger is not only not confined to the working miner, but all classes of the inhabitants in the neighbourhood, particularly children, are exposed to it; while the remedies are so palpable, and the duty and capabilities of the owners to put a stop to every casualty of the kind so paramount, that when a fatal accident does occur we should not hesitate to say it is little short of "wilful murder"—at least, no jury ought to separate, when the ownership is clear, without recording a verdict of "manslaughter." We allude to the highly reprehensible practice of leaving open and exposed the old shafts of abandoned and worked out mines. We have received a communication from a correspondent in the neighbourhood of Birmingham, complaining of many of the coal districts in Staffordshire and Shropshire in this respect; and our readers are aware that we have for years called attention to the same subject, in the hopes of inducing the owners of such property to take measures for the safety of the public—measures which in themselves are so trifling as to cost, and when once properly effected would last for an indefinite period. Our correspondent states, that in these two counties these old pits are so widely scattered over the face of the country, and in some instances so overgrown with underwood and grass, that they are more like pitfalls to entrap an enemy than the results of mining in a civilised country. We regret to say this shameful negligence is not confined to Staffordshire or Shropshire, or the coal districts—Cornwall is equally to blame in this respect. Old abandoned shafts of great depth, in some cases half full of water, in others dry, are to be found in all districts of the county, in woods, in the open fields, by the path side, and even close abutting on turnpike-roads, where in an instant the inadvertent traveller may be hurried into eternity. We know of no subject more worthy the immediate attention of the Legislature than to compel every owner of land to close and render safe all old and abandoned shafts. They have been opened under the hope of prospective advantage, and the public have an undoubted right to demand their enclosure after abandonment.

COPPER SHEATHING.—Some interesting experiments on this useful branch of the manufacture of copper has been made in the United States. Some which had resisted the action of sea water for a considerable period were found to contain no less than one ten thousandth part of silver; this was found sensibly to modify the chemical relations of the metal, and observations had indicated that the quality for sheathing was improved. The subject was resumed again, when the argentiferous native copper of Lake Superior was first rolled by the Revere Copper Company; the alloy contained four parts of pure silver, or about 4 lbs. of silver per ton. A proximate analysis of the metal was taken, and it proved to be pure copper, throughout the mass of which an alloy of copper and silver was evenly distributed, thus forming either a mixture or compound alloy, in which one part of the copper is truly combined with the silver, and the other larger part simply combines with the alloy. It was assumed that the silver alloy would close the pores of the copper and confer durability. If corrosion took place, it was in accordance with observed cases that the silver alloy would act as a negative element, and the copper alone would be removed. These inferences proved erroneous, as the following results will show:—The *Chicora* was coppered in January, 1847, taking 7392 lbs. of metal; she was employed in the China trade, but wore her copper so rapidly that it was removed in March, 1849, 2682 lbs. only remaining; this was after the usual operations, consolidated by "cold rolling." The *Hamilton* was coppered in October, 1847, requiring 7706 lbs. of metal; this was in the annealed state: she was engaged in the Indian trade, but was obliged to be stripped in August, 1849; the copper remaining was 3086 lbs. The *Carthage* was coppered in Nov., 1847, taking 8727 lbs. of "cold rolled," likewise in the Indian trade: her sheathing was taken off in August, 1847; the copper remaining was 5810 lbs. Allowing the same rate of corrosion for each, it will be seen the vessels lost respectively 64·45, 70·38, and 43·00 in 100. In the cases of the *Hamilton* and *Carthage*, the influence of the different processes of manufacturing will be seen on the durability of the copper, thereby exhibiting the superiority of cold rolling over the annealed alloy, while it will be seen that the silver alloy, by taking the negative state in the mass of metal, hastened its destruction, while its own form and condition were such that it was separated as the copper corroded. The average duration of the wear of copper on American ships is three years.

Redruth being the centre of the mining district of Cornwall, the result of the recent census will interest many of our readers—viz.: males, 4964; females, 5607—total, 10,571: majority of the latter, 643. Increase since 1841, 1264; 1831, 2662; 1821, 3967. Number of aged persons of both sexes above 70 years of age—males, 63; females, 143; widowers, 80; widows, 530; males unmarried (marriageable), 1241; females ditto, 1343. The increase of population has gone on steadily for 40 years, notwithstanding the number of persons that have emigrated, and miners dispersed in every quarter of the globe. This partly accounts for the excess in the number of females, though the true reason is too well known to be the short duration of a miner's life, which also accounts for the disparity in the number of aged females and of widows over that of the other gender. One-fourth of the marriageable males and females are in a state of single blessedness. This can only be accounted for by the low average earnings, for miners are disposed to marry very early in life. There are 12 Sabbath schools, 2201 scholars, and 465 teachers; church accommodation for 1198; chapel ditto, 5605; eight ladies' schools, 190; six commercial schools, 177; 21 infant schools, 517.

CALIFORNIA.—The estimated produce of gold dust for the first quarter of 1851 is $16,030,155; this taken as a standard in estimating the amount for the year, the total production would be $64,120,620. The favourable circumstances under which mining was stated to be conducted, according to the last advices, renders it probable the annual return will not fall short of $70,000,000. In 1839, Mr. M'Culloch estimated the entire annual produce of the American, European, and Russo-Asiatic mines at 6,000,000*l.* sterling, or about $28,000,000 of the precious metals.

INTERNAL HEAT OF COPPER AND TIN MINES.

In a paper on the Physical Geography of Cornwall, Mr. R. Q. Couch, F.R.S., said—The subject would hardly be complete unless some reference was made to the internal heat of our globe as developed in the Cornish mines, and yet the subject is so great, so complicated, and the facts so numerical in character, that little more than a brief remark can be made. It may be stated as a well-ascertained fact, that the interior of our earth is much warmer than the surface, and that this heat increases as you descend. That its internal heat does not arise from the influence of the sun is evident from the fact that the surface of the earth varies according to the season, and according to the time of the day—being hotter during the summer and autumn than in spring or winter, and its diurnal heat being greatest about half-past two or three o'clock P.M. As you descend, this variation becomes perceptibly less, and finally ceases altogether. The depth at which this takes places must, of course, vary with the climate, being deeper within the tropics than at the north or south pole. Below this there is a permanent temperature, which Messrs. Fox and Henwood estimate at 50° Fah. This, therefore, in winter may be called a warm, in summer a cold zone; but the best name is the zone of invariable temperature: 50° may be taken, therefore, as an unit in our calculations. It must not be expected that we obtain invariably the same results in all our experiments—such is not the case. A general expression of the results may be made in stating that there is a great increase of heat as you descend, and that the variations we observe are the results of disturbing influences, through which the heat has to pass. As our mining districts vary very much in character geologically, so do the results of our observations vary. As a general rule, the granite formations are colder than the killas and slate. The miners state that tin mines are colder than copper of the same depth: this the miners refer to the mineral; but it is due to the fact that tin mines are in granite nearly always. Copper frequently not, but there is not much difference if the depths are nearly equal. Another source of error is to be found in the fact, that the word depth is frequently not of equal value, and are liable to error. If a mine sunk from a plain to 200 fathoms be compared with another mine sunk 200 fathoms from the top or side of a hill, the heat in both cases would not be alike. In order, therefore, to obtain a standard, it will be necessary to take some lines as the unit of descent. For this purpose no line seems so good as the sea level. If this be taken, it seems probable that the isothermal lines, or lines of equal heat, will run parallel to the general surface of the earth: but a difference will be observed, which will arise from the geological characters of the district. Great differences will be observed also, according to the ventilation of the mine: if there be numerous shafts it will be cooler than where there is only one. The air is always cooler nearer the shafts than further in the levels; but I pass a further consideration of these and several other facts on this subject by, to state the increase from actual observation. If any further information is required, it may, perhaps, be elicited in any discussion that may take place on the subject.

	Fathoms.	Degrees.
In LEVANT	44	51
PARK-AN-NOWETH	54	51½
ditto	61	57
ditto	69	54
ditto	99	61
ditto	110	66
ditto	135	73
PARK-AN-NOWETH	144	73
ditto	152	77
ditto	153	81
ditto	240	89
While at E. POLDICE	184	100
ditto	267	92
ditto	287	94

These are all from the slate; the granite would be colder. At the Consolidated Mines, which are in slate, we have at the depth of 316 fathoms 106° Fah. In the United Mines the temperature is 96° at the same depth, but the rocks are granite; but in this mine there is a spring of water, discharging about 94 gallons per minute, which has a temperature of 106½° Fah.; and the air near this spring, or through the level, except when near the shafts, is 104°; so that the lower we get the warmer or hotter we get. From these data we observe that the miner, after having to descend more than one-third of a mile into the earth, and having twice to pass through a cold or temperate clime to that of the torrid, has to work eight hours in a heat vastly hotter than our hottest summer day, not only without the benefit of fresh air, but in air charged with the fumes of gunpowder, and frequently wet to the skin with the dripping of the mine; and to all this, has to work quite as hard as our indignation and imagination supposes the African slave to do.

THE GOLD REGIONS OF CALIFORNIA.—In a lecture at San Francisco, Prof. Shepherd entered into a general review of the mineral resources of the country, especially with reference to the gold quartz. He treated at length of a curious and interesting subject, the process by which the gold has been formed in its present state. He considered that there was a galvanic action constantly going on in the earth, by which metals were segregated or deposited; and he referred to several very interesting facts in support of his theory. For instance, any one may take acetate of lead, and, by surrounding it with a galvanic circuit, in two hours obtain pure lead. He had no doubt that silver, lead, and iron, abounded in California. A friend of his had found silver nearly pure on the rocks near the South Pass. The best burrs for millstones were found in our hills. He had, however, found no indications of any large coal beds; although, north of Sonoma, he had seen some coal on the surface, which was of good quality, though not in any quantity. In the same neighbourhood were hot springs, nearly of blood heat. A remarkable feature of the soil near Sonoma was the high temperature. Beginning at Vallejo, and going towards Sonoma, the water of the springs rises in temperature from 70° to 100°. At one of the hottest some Indians had scalded a pig. Near Napa, 2 feet below the surface, the temperature was 129°, too hot for the naked hand. The appearances of the bay around San Francisco, led him (Prof. S. continued) to believe the Indian tradition correct, that the Golden Gates were once closed up, and that there was an immense bay with its outlet at Monterey. He had himself found, on the top of the limestone ridges, near Vallejo, quantities of shark's teeth embedded in the stone, and nearly perfect. If this theory were correct, it was possible that coal might yet be found in the neighbourhood of Monterey, where the naphtha springs gave favourable indications. Indurated bitumen is found in great quantities, excellent as a substitute for coal. Four days' journey north-west from Napa is a chasm over one thousand feet deep. Looking over into the chasm you find every appearance of an immense manufacturing town; orifices discharging steam, and steam and water, at 212°, or boiling heat, accompanied by a tremendous hissing noise. Descending to the foot of the chasm (said the Professor) we found ourselves in a perfect Tartarus, bristling with caves and miniature volcanoes, with boiling hot springs roaring inside, and other hot springs boiling under your feet and visible through numerous fissures. Traces of sulphur abounded, and crystals lay about, enough to fill a wheelbarrow. He was told of piles of sulphur a few miles distant. There were also sulphur springs, magnesia, and chalybeate springs of every temperature, from the icy cold to the boiling heat. With all this, there were no volcanic appearances of any kind. Near some of the largest springs, which overflow, or send up a jet, the heat is excessive, and the crust of earth is so thin that there is danger of breaking through into the boiling flood beneath. This heat, which he would denominate plutonic rather than volcanic, he thought had a powerful agency in producing the gold. These remarkable springs are about 100 miles from San Francisco, with a good carriage road to within about 11 miles. The Professor said he knew that a company of English geologists had recently gone home from this country, carrying with them specimens of the various soils, minerals, &c. He says the gigantic bulrush peculiar to California, the *tule*, had been analysed, and there was no doubt that it contained an excellent material for the manufacture of paper.

THE COPPER TRADE.—The last advices from Sydney mention that the first sale of copper smelted in the colony from colonial ore was advertised to take place immediately. There had been sales of copper in Sydney previously, but these were stated to consist of South Australian and New Zealand produce. This sale may, consequently, be looked upon as one of considerable importance as the first of a series; indeed, many persons in the colony express a belief that before many months are over there will be monthly sales of copper in Sydney, as there are now of wool and tallow. The copper in question, which is stated to be very pure, the smelting having been scientifically performed, is from a mine near Bathurst, known as Glasson's Mine. The ore is represented to be rich and plentiful, and large quantities are being "grassed" every week. The smelting being done at the works, a heavy expense in cartage is saved. The cost of conveying ores from distant parts of the colony is so high, that it quite prevents the poorer description of ores from being brought down to Sydney: but if the practice of smelting with wood at the mines can be extensively carried out, there are many places in which mines can be profitably worked which are now looked upon as perfectly unremunerative. The exportation of copper from Australia, which already forms a most important and increasing branch of business, may thus be even more rapidly augmented.

THE GREAT EXHIBITION.—At a *soirée* recently given in honour of the *fête* of all Nations, an American gentleman who was present, stated, that in the United States, they were thinking of getting up a similar exposition. Being Yankee, this was to exceed all others. In the course of conversation, it was stated that the American building was to be three miles long and two broad. An Englishman who was present naively replied, "If that be the case, you will have to fill it with your own notions."

BRITISH MINING.—No. III.

The progress of copper mining is worthy of remark. By records preserved we find that Edward III. granted to John Ballanter and Walter Bolbolter "all his mines of gold, silver, and copper in Devon for two years"—a term so limited is proof enough that no expensive shaft sinking or machinery was requisite to work the mines in those days; in fact, they must have been mere pits sunk by manual labour or horse-power—a surface skimming or streaming. Richard II. granted a charter in the following quaint words—"The King to Hugh of Burnell and our Sheriff of Salop. We are informed by James Miner, of a mine of copper and silver in or near the lordship or priory of Wenlock; we assign you to ordain the said James to work the same without any let or hindrance." The quantity of ore raised during the reign of Henry VIII. and Edward VI. was so trifling, that several Acts were passed prohibiting the export of "brass, copper, latten, bell metal, pan metal, gun metal, and shrof metal" the latter supposed to mean plate. Even in 1778 the quantity of copper raised in Cornwall was but 2965 tons; and within a century the tin miners regularly abandoned the mines directly they came to the "yellows" or "poudre." Tresavean Mine was thus suspended for a very long period. Within the last 45 years little notice was taken of the black ore, which being like soot was washed away in quantities: a considerable quantity lay mixed up in an old hedge in Goldsithney for many years, and its value remained unknown, till the proprietor, about seven years since, while in the act of tearing down the hedge, discovered it. At Dolcoath, a quantity of silver and cobalt ore was found among the old heaps of rubbish within the last thirty years, which led to a strict examination as to where it was likely to have been broken, and the result proved of considerable advantage to the company. Until within the last 20 years mundic was thrown aside as good for nothing, and seven-eighths of the arsenic lost; they both now yield considerable returns to our native mines, and an increased demand for them is certain. Some of our copper mines have a portion of silver mixed in the lode, which escaped detection for 50 years at least, till at last, at one or more of *our* smelting-houses, it was discovered and kept secret. The parties continuing to purchase these kind of ores at an advance over the price offered for them by their rivals in trade, led to its open discovery; and there are parcels of copper ore now frequently sold at the ticketings that are considered to be equally as valuable for silver as for copper, for which, however, the miner gets but a trifling advantage, in comparison with the smelting company who purchases it. New processes of dressing ores, and of separating the various metals combined together in one stone, are starting up every month in a theoretical manner, but are carried out in practice to a very trifling extent. This is much to be regretted, for certain are the advantages that must attend upon all such improvements on the old system, if brought into full operation, and become generally known and adopted.

We now return to the subject of shafts, diagonal and perpendicular. The remarks in our last applied, as our readers are aware, to mines of copper, tin, &c., not to coal, where the system pursued is altogether different. There the advantage of shafts, diagonal and inclined planes, are considerable—in fact, they answer best, the workings being very shallow in comparison. In a mine for copper or tin, after a level has been driven some distance from the shaft, it will be found necessary to sink another, to ensure good ventilation, assist in drawing the stuff, and otherwise facilitate the workings generally. As soon as the engine-shaft is down 10 fms. under adit winzes are equally beneficial, and used for such purposes. If the lode is orey they are sunk in the bunch, thus proving it to hold down or otherwise. In case it does so to the level below, ground is cut out for stoping, or a pitch may be worked each way. As the upper level extends further and further other winzes may be required, and, of course, the sump-shaft must be kept sinking for deeper levels. As they are reached one below the other, the like operation in winzes, &c., has to be observed, and thus the mine gets into a regular course of working. Cross-cuts are driven to cut side lodes, and are very valuable auxiliaries in a mine. Levels and cross-cuts are generally (and ought always to be where ground is not extremely hard) carried 7 feet high, and 3 feet wide. When extended a long distance from a shaft, it is a saving in time and expense to lay down a tramroad. Had our ancestors adopted this plan, and the frequently cross-cutting, to discover whether they were working upon the whole of the lode or not, the most productive part or otherwise, and thus proving every branch making away from it, many of the old mines, shut up as too poor to work, when resumed since, would not have turned out so well as several of them have, even within a short period of years. Mining agents of the present day are an improved race of men to the generality of those who, from old age, no longer follow their avocation: they certainly think more, and watch better the innumerable changes that takes place below from month to month, and day to day. They thus make a better acquaintance with the lode or lodes in the mine they belong to, and are better able to account for certain changes, calculate how and where to follow the same with a precision in some cases most praiseworthy. More of them understand and practice dialling than they were wont; and in mines of any magnitude a regular working plan is kept up, which, in the long run, proves a vast saving in many respects. Gold, and the ores of silver, copper, tin, lead, zinc, cobalt, arsenic, bismuth, antimony, and most other metals, occur in veins; while iron, mercury, manganese, coal, and rock salt generally are in beds. Gold, platina, and the ores of tin and iron, are often found in diluvial and alluvial accumulations. The diamond, amethyst, sapphire, and other precious stones, generally occur in small rounded masses, under similar circumstances. Tin, iron, and copper are discovered sparingly disseminated in rocks. Copper, lead, and a few others, are now and then met with in irregular cavities, or pipe veins.

A true mineral vein, or lode, is a tabular mass, consisting of mineral substances of indefinite extent, both longitudinally and in depth, traversing the rock or strata, and penetrating it in the direction of its length and depth at a considerable angle, generally with the plane of the horizon, often approaching a perpendicular to it. It appears indisputable that most veins, or lodes, were originally fissures in the rocks they traverse, which have since become filled with the mineral substances by means of natural operations, which we very imperfectly understand. This is attributed to electro-chemical agency, superadded in some cases to aqueous infiltrations, which is one of the favourite theoretical views entertained of the subject. The largest and most productive veins in a mineral district generally run parallel to each other, frequently intersected by smaller veins or branches, and cross at acute angles—these are "contra" veins; and also by others having, likewise, a parallel direction, crossing at right angles—these are called "cross-courses," and do not produce metallic ore. The copper and tin lodes of Cornwall and Devon run east and west, similar to Wales, Scotland, Germany, Mexico, and Brazil. Silver and lead lodes run north and south—as in Cornwall, Devon, the Tamar district, Saxony, Hungary, &c. As regards the dip, it seldom forms an angle of less than 45°—as at Wheal Friendship, the Logylas in Cardigan, the Veta Madre of Guanaxuato; a large portion, 60° to 80°—as the Veta Madre of Bolanos, and many others in all parts of the globe.

The same vein often changes its inclination at different depths—as in the soft argillaceous strata it is greater than in harder calcareous and silicious beds. About the actual depth to which mineral veins are likely to extend, a great diversity of opinion prevails. The deepest we know of are the Great Consols and Tresavean, in Gwennap, both down about 350 fms. from surface; while it is stated that the Sampson Mine, in the Hartz, is down 384; and a mine in the Tyrol is 500 fathoms deep. The mines of Spain, Brazil, and Mexico, are all of a very shallow depth, though in width the Veta Madre of Guanaxuato, and Veta Grande of Zacatecas, are in some places 70 to 150 ft. wide.

It is generally found that the rock immediately adjoining a metalliferous vein, and forming the *wall*, is different from the surrounding mass, being closer and compact. This is termed the *capel* of the lode. The same phenomenon occurs in Mexico. The porphyritic rock forming the wall of the Biscaina vein is of extreme hardness. The great vein of Bolanos presents the singular fact of the upper or hanging wall being formed by a soft decomposed rock; the lower, an exceedingly hard silicious one.

An isolated mass, or wedge of rock, sometimes occurs *in* the vein, which is for a time separated into two branches; this is called a "horse." Slides also are common in Cornwall, and occur in Mexico and other mineral countries. They are generally composed of clay or argillaceous matter in direction with the mineral vein, with an underlie greater than opposed to the latter, intersecting them in a horizontal, or more or less inclined, direction. These slides heave the lode not as cross-courses do, from 5 to 60, or 70 fms., but a few feet only. These facts throw considerable light on, and point out distinctly, relative epochs at each of which disturbing forces have acted in different lines, or directions. 1. Elvan intersects the slate and granite rocks.—2. Tin veins traverse the porphyry.—3. Copper veins cross the tin ones.—4. Slides intersect both copper and tin lodes.—5. Cross-courses intersect them *all*, presenting a natural index to the direction and intensity of the disturbing forces. Where veins intersect each other, the more recent one not only passes through, but *heaves* the other.

[*To be continued in next week's Mining Journal.*]

MINING IN CUMBERLAND.

The Black Burn Lead Mine, situate in the north-western portion of the manor of Alston Moor, is held of the Commissioners of the Greenwich Hospital at a duty of one-seventh in ore, and considered one of the most important trials now going on in that neighbourhood. The sett is about three miles in length from east to west, and two miles from north to south, most of the veins crossing this irregular oblong from south-east to north-west. Within this there is one take of 1200 yards in the Horse Edge vein, belonging to another company. The ground rises from the Tyne on the east, to the ridge of Hartside on the west, a portion of the Penine chain laying north of Crossfell, and the strata rise in the same direction. On the north and south it is bounded by the Gilderdale and Black Burns, two streams running from Hartside to the Tyne. At the lowest computation 20 known veins pass through the sett. From the east and south-east come the Blagill, the Byle, the Farnbury, the Holyfield, the Nattrass, the Hudgill, the Flow Edge, and the Wiseman veins; from the south-west the Smittergill Hill and Birchy Bank veins. These have all, from time to time, raised a large amount of ore, and several of them been very rich. Hudgill Burn divided 32,000*l.* per annum for some years, and enriched the fortunate proprietors. The known cross-courses are the Gill House Burn, Sir John's, and Inner Gill veins, from all of which ore has been raised. For thoroughly proving the field, a low level (now 135 fms. in) is driving under the main bearing strata through the centre of the ground from the Black Burn north, so as to intersect all the east and west veins, and several of these are expected to be cut in this level in the next six months. To work this portion of the sett to advantage, two more levels will be required above the low one, and the high level has been already started, to enable the company to work a very promising 3-ft. wide vein at Scarberry, apparently one of the Blagill veins, showing good ore up to the surface, and intersecting another ore-bearing vein of equal strength within a short distance of the trial shaft. This level will be up to these veins by the end of the year, when it is expected the mine will pay for opening out, and render further calls unnecessary.

The east end of the sett is most favourably situated for trial. Byle vein has been proved more than 6 ft. wide, and presented a promising appearance at the surface, with fine vein stuff, and threads of ore crossing in all directions. A level will be driven west in this vein to the Gill-house Burn cross vein, and then a cross-cut north and south in the latter, so as to cut all the east and west veins, and work them to the most advantage. The veins at the west end of the sett will be worked from Gilderdale, taking advantage of a strong cross-course to drive the levels in. Good roads pass through the field, and a branch line from the Newcastle and Carlisle Railway to Alstone will be opened in August next, bringing it within two miles of rail.

In this district the carboniferous lime is formed of alternating beds of limestone, hazels (silicious beds), and plates (clays), the two first being the ore-producing beds. At Black Burn the plates are much thinner, and the hazels proportionately thicker than the average on the manor—a very favourable symptom. The metalliferous character of the strata on the south is already proved by the Rodderup Fell Mine, now producing from 1200 to 1400 tons of ore per annum from one vein, and affording a large profit. That this metalliferous character extends over the Black Burn sett the adventurers are well assured, but it would be trespassing too much on your columns to detail all the small discoveries that have led them to this conclusion. If their calculations prove correct, there can be no doubt, from the number of veins, and the facilities afforded by the formation of the ground for the economical working of them, the Black Burn, when opened out, will be one of the most extensive, and we trust profitable, mining fields in the north of England.

COAL IN FRANCE.—The Portes and Sénéchas coal-field is situate at about 12 miles north of Alais, in the Department of the Gard, in the province of Languedoc, south of France, and is within two miles of the Alais and Nismes Railway, which communicates with the sea-ports of Cette and Marseilles. It is also traversed by two main roads, the Paris and Nismes, and the St. Cécile d'Andorge, the former of which connects, by means of canal at Lunel la Ville, the mines with Bordeaud, Toulouse, Béziers, Castelnandari, and other large towns. The veins or seams of coals at present discovered on this property are 16 in number, averaging 7 feet in thickness, and running very regular, at an incline of about 13°. The seams are divided by very tenacious and hard sandstone, which affords a sound roof, and thereby renders the use of timber unnecessary. Every natural advantage exists in the economical working of the mines, and neither shafts nor pumping engines are required, adits only being requisite. These mines produce coals of various descriptions—viz.: bituminous and caking, possessing very little sulphur, and suitable for making the best kind of coke, and a hard or splint coal, precisely similar to that found in Staffordshire, and producing a most intense and powerful flame. There are also most excellent blacksmiths' coals—in fact, every kind usually in demand, either for domestic use or for the purpose of manufacture and locomotion. From the unusual advantages which these mines possess, as before stated, the best large coals can be raised at a cost of not exceeding 3s. per ton, whilst the small coal or slack can be produced for about 1s. 6d. per ton, to be made into coke. The demand for coal in the south of France is of such magnitude as to very far exceed the supply of the native collieries, hence immense quantities are annually imported from England, the amounts of which are officially stated at 26,000,000 frs. in value. From the extent and position of this coal-field, it has been ascertained that with an outlay of 20,000*l.*, for making a road, an incline plane, and other tramways, 250,000 tons of coals can be raised annually, the profits on which would not be less than 4s. per ton. It is estimated that on this property alone there is coal sufficient to supply the whole of the south of France and Italy for the next 200 years, and the low rate at which coals can be raised at these mines would render that trade a monopoly: the demand is continuous, and almost unlimited. Within a small circuit of the mines are 12 blast furnaces, and innumerable and extensive works—consisting of distilleries, silk-mills, soap, gas, glass, woollen, chemical, and numerous other manufactories, all consuming immense quantities of coal. There are likewise railways, and the Mediterranean steam navigation demanding a constant and regular supply. The property, which extends to 22,250 acres, is held under a concession in perpetuity, granted by Louis XVIII., according to the law on mines passed in the year 1810, and by which law the French Government have no right of interference whatever in the working of the mines, beyond the receiving of the Royalty, of 5 per cent. on the nett profits. At the present moment there are driven in various seams four principal adits, from which spring the necessary drifts and headings. On the bank there are six coke ovens in full work, which supply the Vialas lead and silver mines, and other large works in the neighbourhood, with that commodity.

WEST CORNWALL RAILWAY—TESTIMONIAL TO THOMAS DARKE, ESQ.—Any individual who, by endeavours, succeeds in effectuating a great object for the public good, we think deserving of the thanks of the community on whom that good is conferred. The West Cornwall Railway is a great good, as most persons admit, because by saving time it saves the *money* of those who travel thereon. At a time when, owing to the relinquishment or forfeiture of a considerable number of shares in this line, there was no possibility of proceeding with the works, Mr. Darke, solicitor, of Penzance, advised some of his clients, and prevailed on them to invest capital in the concern, by taking up the forfeited shares, the consequence of which is that the works are now in rapid progression, and the line will be opened to Truro next summer (1852). Such is the feeling entertained in West Cornwall for Mr. Darke, on account of this public service, that it is in contemplation to raise, by subscription, a sum of money to be devoted to a *testimonial*, which will be presented to him on the completion of the line. We understand that a committee is about to be formed for conducting the whole business.

CAMBORNE AND ILLOGAN MINES.—We are informed that the map of this district, by Mr. R. Symons, so long in the hands of the lithographer, is now *printed*, and that the copies are being mounted for delivery to the subscribers. We think this a very useful companion for all adventurers, agents, landowners, and share-dealers, all of whom should possess copies, that they may write and speak with more precision as to the relative situation of the mines, lodes, &c. To prevent delay, similar to that of the printers in this case, we understand it is intended that in future the maps shall be printed at *Truro, on the premises* of the surveyor.

THE COMPANY OF COPPER MINERS OF ENGLAND.

This company appeared before a committee of the House of Commons, on Tuesday, for the purpose of asking for a bill to enable the directors to facilitate the settlement of the affairs of the company and its better management in future. Mr. Talbot, Q.C., opened the case on behalf of the company, and the substance of his statement was as follows:—That the object of the bill, which was promoted principally by certain debenture holders and creditors of the company, with the consent and co-operation of the shareholders, was to carry out an arrangement which would secure to the creditors and shareholders the works and mineral beds of the company, on which about 700,000*l.* had been expended within a few years, and on which about 8000 persons were employed. That the works and mines were now in mortgage for 270,000*l.* to the Bank of England, who were now in possession of them. That the directors of the company had, subsequently to the mortgage, conveyed the remainder of the property to trustees for the benefit of their creditors—the value of which was estimated at over 30,000*l.*, of which 20,800*l.* was now in the Court of Chancery in a suit pending for carrying into effect the provisions of the trust deed. That the arrangement now proposed by this bill was, that the debts and debentures of the company should be converted into stock, at the rate of 10s. in the pound—the preference stock of the company being reduced to 5s., and the old stock to 2s. 6d. in the pound on the present amount. That if this arrangement should be sanctioned by Parliament, the Bank of England would consent to take, in satisfaction of their debt, a sum much less than that now due to them. The learned counsel then went into a statement of figures, from which it appeared that the debentures of the company amounted to 346,625*l.*; the liabilities to general creditors, 142,555*l.*; from which was to be deducted certain claims in the Chancery suit to the amount of 125,000*l.* That the result of these calculations of the company would be, that debentures and stock, amounting to 1,250,000*l.*, would be reduced to 300,000*l.* That the company would get back for 70,000*l.* what had cost 700,000*l.*; and that the estimated profit of 30,000*l.* per annum would give a return of 6 per cent. on the new capital of 500,000*l.* That the assents to this proposition numbered more than 11-12ths of all the creditors.

When the learned counsel had concluded his statement, Mr. Young, solicitor to the promoters of the bill, was examined at great length, and proved the various allegations of the preamble. He also explained the nature of the proposed scheme; and stated that the same was assented to by nearly 19-20ths of the creditors of the company, and the other parties interested; and that of the non-assenting parties, the majority were not actually hostile to the scheme, but were incapable, from the want of legal power, or otherwise, from formally assenting thereto. He also gave evidence to show that, under the circumstances of the case, the opposition of the ironmasters and copper smelters, who were the only opponents of the bill, was inconsistent with good faith, and founded solely on trade rivalry, and not on public principle.

The proceedings were then adjourned to Wednesday, when Mr. Burke addressed the committee on behalf of Mr. Crawshay and other iron-owners; and contended that there was no precedent for allowing a company to trade with a limited liability on the part of the shareholders. He also contended that the Bank of England had been guilty of a breach of their Charter by the course adopted in reference to this company.

No evidence was called by the opponents of the bill; and the committee declared the preamble proved, and the clauses were then disposed of.

THE BANWEN IRON COMPANY.

In our last Journal, we announced that Master Kindersly had made a peremptory call of 2*l.*, for the purpose of winding-up this ill-fated scheme. On Monday, it was stated that the number of parties had been reduced to 1435, whom the official manager expressed his "hopes" would pay in full. The case of Dr. Barnett, a defaulting director, was resumed, when he produced such an explicit and comprehensive statement of his affairs, with such a multitude of figures, as complete as though he were proving his own case, and asking for discharge in the Insolvent Court. The Master stated that he should pursue the steps he thought most advantageous to the company. The official manager said, he considered it a very full and satisfactory statement. His books, too, were kept with great regularity, and his personal expenses did not exceed 2*l.* 5*s.* per week. Such documents would pass him through any insolvent court; and any further proceedings would only create expense to the company. Mr. Wilkinson would decidedly object to the official manager refraining from further proceedings against Dr. Barnett; for if the "screw" were applied, the money would come from some quarter or other, as in the case of Mr. White. At all events, it was ridiculous and inconsistent with the provisions of the Winding-up Act that he should be walking at large owing the company 75*l.* The Master said, that the course he should finally adopt would be governed by the affidavits he should require from Dr. Barnett, which would be drawn up with the greatest care and stringency. Mr. Brown understood the present position of the company to be—the official manager had got 1302*l.*; then the purchase-money from Mr. Richards was 1000*l.*: making 2300*l.* Deduct (say) 1000*l.* for winding-up, there would be 1300*l.* left, besides the 2*l.* call on the 1435 shares (2870*l.*), a total of 4370*l.* to pay 4028*l.* Among the defaulting contributories was Dr. Evans for 600*l.* Mr. Wilkinson said there was an attachment out against him, but he was not taken as yet; nor did he expect to get a farthing. Two other defaulters were minors. Mr. Heaviside had a set off against his claim. Mr. Wilkinson contended that good would be done to society, in a moral point of view, by having such persons (Drs. Barnett and Evans included) sent to prison. The Master could not enter upon "moral considerations" at this moment. Mr. Wilkinson stated his belief that the weekly expenses of the company were upwards of 9*l.* It would, therefore, be well to have a wind-up quickly. The call of 2*l.* was then ordered to be payable on the 20th June, and the proceedings adjourned.

MERIONETHSHIRE SLATE AND SLAB COMPANY.—On Wednesday a meeting took place before Master Sir W. Horne, when the further settlement of the list of contributories was proceeded with. The names of several parties were, during the earlier part of the proceedings, included as contributories, without giving rise to much discussion, but when Mr. Hetherington, on the part of the official manager, proposed to settle in like manner Mr. Hooper for 50 shares, Mr. Hancock, who appeared for that gentleman, observed that his client had not signed the deed; and by a clause in that document it was enacted that no proprietor should be entitled to any right in respect of or hold shares in the company until he had executed the deed. He apprehended that this would prove a fatal objection, and likely to affect all those persons who had been put down as contributories, but who did not sign the deed. He (Mr. Hancock) wished, moreover, to call attention to a resolution passed by the board on the 14th Dec., 1847, to the effect that all those shares upon which the call of 10s. was not paid were thereby forfeited; and subsequently, on the 7th Feb., 1848, a list of shareholders was laid before the board, which list contained the names of only 10 persons, and his client was not of the number. All this had taken place long after the payment of the deposit by Mr. Hancock. Mr. Hetherington commenced his reply to these statements, when it was found that the presence of the secretary was indispensable; and his Honour, after expressing an opinion that the facts stated were extremely important, and deserved the best consideration from all parties, adjourned the case.

MANUFACTURE OF INDIA-RUBBER GOODS.—We have inspected, during the week, an interesting stock of various fabrics manufactured by Messrs. S. Moulton and Co., of the Kingston Mills, Bradford, Wilts, from caoutchouc, in conjunction with other materials, which we think will stand a test of comparison with any other similar manufactures. India-rubber canvas hose pipe for fire-engines, factory, and railway uses, is made of various thicknesses, strong and elastic, and to keep out round according to the purposes for which it is required—pure India-rubber tubing for acids, gas, &c. Engineering packing for man-hole plates, stuffing-boxes, steam-joints, cylinder heads, &c., unaffected by heat below 300° Fahr. Machine and railway driving banding of a peculiar manufacture, composed of strong canvas and India-rubber, which is warranted perfectly equal throughout in width and thickness, unaffected by heat under 300°, totally uninjured by cold or moisture, of great strength and durability, does not slip the pullies, and in wide belting the cost is less than leather or any other fabric. Messrs. Moulton also manufacture a very elegant and light waterproof article in colours for ladies cloaks, or linings for other portions of dress; another equally light in black for dreadnoughts, overhauls, top coats, &c., a washable and waterproof material in colours for table cloths and covers, and a very exact imitation of leather either in dead black, or polished, but far more elastic and economical for covering sofas, chairs, ottomans, hassocks, &c. This latter article would also, we think, be found much admired in the manufacture of gloves, which might be made to fit the hand like a natural skin.

IMPROVEMENTS IN MANUFACTURING GAS.—By a process just patented, Mr. G. R. Booth proposes to enable consumers of gas to supply themselves by means of an apparatus (which he claims, as also the mode of operating with it) in which it may be obtained from oleaginous, tarry, or bituminous substances. This apparatus consists mainly of a cylindrical metal casing, in which is a fire-place lined with clay and coke, and having a muffle over it, above which is suspended by its neck a retort terminating at bottom in the form of an inverted truncated cone, the inclined sides having steps or corrugations to receive oil to be operated on, which is supplied by one or more feed-pipes when the retort is of a cherry red heat. The gas generated passes off through a pipe and intermediate chamber to a vessel containing coke or pumice-stone for the purpose of purifying it for use. The oil which condenses in the intermediate chamber is re-run into the retort through a pipe provided for the purpose, and again distilled together with the carbonaceous residuum of the preceding operation. Should the soot be allowed to accumulate after each operation, an air-hole must be provided to the retort for the purpose of burning it out.—*Mechanics' Magazine.*

NEW BAND OF COAL.—Great rejoicing took place at Maryport on Monday, when a cart load of fine coal was paraded through the principal streets from Ellenborough Colliery, the property of T. Harris, Esq. It is what is termed the 10 quarters' band, with 8½ ft. of pure coal. The shaft is 100 fms. in depth and is in the royalty of J. P. Senhouse, Esq., Netherhall.—*Whitehaven Herald.*

Original Correspondence.

MINES AND MINING.

Sir,—Those who are not initiated in the operations of mining may suppose, in perusing the late numbers of your Journal, that it is the most vague science, and subject to no definite principle, and that this is the cause of its being so precarious and, to many persons, a ruinous speculation. Even the recent letters under this head, written by a person who, according to his account, has been a miner upwards of 35 years, injures the character of our mine captains in the estimation of the world. Instead of dwelling on the details of his experience and practice, as a practical miner and dresser, to instruct the youngsters in the useful knowledge of mining, he leaves *terra firma*, forgets his subject, loses the substance, and flies after a shadow, and becomes lost in the mystical region, whence no light can be expected to guide the rising generation of miners. Fortunately for the prudent capitalists, and those who have been engaged for years in *bonâ fide* mining, there are systems and rules, well established, by which it is possible to determinate the character, and consequently the result, in the majority of instances, not only in old developed mines, but in unexplored ground. This fact is well known to many for very good reasons; and it is gradually operating in a manner as will check ultimately, to a certain extent, the abuses in mining speculations.

Some persons think that if this be really the case, there would be an end to *speculating* in mining; but such ideas proceed from the want of knowing how specs are got up, the clashing interest of parties, and a better knowledge of the world. Men who understand their business, and occupied in their own affairs, will not waste their time on the fancies of others, and their notions of mines, nor do they wish to interfere with their proceedings in exploring worthless ground, provided they do it at their own expense and responsibility. Should they appear, however, under false colours, and attempt to compromise others, and employ some of their paid instruments to depreciate the science of mining, or the labours of those who have been connected with the legitimate part of it for years, merely to persuade the unwary capitalists to join them, it then becomes necessary to caution the public. However small the proportion of the paying mines be to the total number at work, yet it is a large proportion as compared to the number of persons who have gained by mining; and this has proceeded principally more from the want of the usual business caution than from the ignorance of the captain in the hidden mineral treasures.

Until lately it appeared that all that was wanted to get a capital was a simple report on the character of the sett, showing that it presented favourable indications. Neither a map or any other document was demanded to show the situation and size of the property. A speculator would take up a piece of ground, and finding, perhaps, that the reports of those most versed in the matter, both as to mineral and the £ *s. d.* part of the business, were not suitable for the object in view, apply to those whose practical knowledge and principles may not be of a high order, and obtain a favourable report, with permission, if necessary, to magnify and embellish. It appeared that there was no necessity to make inquiries regarding the *conditions*, and the *working parties*, who were to be responsible for the economical and judicious prosecution of the undertaking. These most essential accessories to secure profitable results, even in a favourable mineral ground, were never dreamt of by the multitude.

It would be extremely unwise for any person, who may be competent and impartial enough to do so, to analyse the mining share list and point out and expose to the public all the worthless mines: some of which are useful, inasmuch as they employ many people and serve as a school for miners; and thus they acquire the knowledge of different kinds of rocks, unproductive as well as productive, which becomes available in other districts or new ground.

Again, if capitalists will go headlong into mining without advice, it would be better to spend their money in our own country than to waste it abroad Those who cannot afford such proceedings must avoid going to the lion's mouth, and must not be mislead by interested parties, and the loose, endless style of writing of some of your correspondents, who fancy they know something of mining. Mining is subject to the same rules as other branches of industry; and it is possible to judge, in at least nine cases out of twelve, the value of any kind of ground; and if carried on in a business-like manner by thorough practical men, *proved so by their past transactions*, both as to correct judgment and system of economy in the operation, the capitalists may consider themselves secure, however vague other people's fancies may be: let them be guided by such men, and not by interested parties, who have no practical knowledge of the matter, if they speculate or invest in mining.—Evan Hopkins: 13, *Austinfriars*, *May* 29.

BRISTOL COAL MINES.

Sir,—In preparing for your Journal a sketch of the methods practiced in coal mining in this district, it will not be necessary to give a description of the geological position of the field (that having been done by able geologists), further than that it consists of small basins, abounding with veins or seams of coal, from a few inches to 5 feet and upwards in thickness, suitable for housekeepers, gas-making, smiths', and engine purposes, and found at depths from a few fathoms to nearly 250, as the pits happen to be sunk near to the crop or in the deep of the royalty. The coal is not quite so clean as the Welsh or Newcastle coal, but makes a blazing cheerful fire.

In sinking, the shafts are roughed out square or oblong, and carried down in timber, until a foundation, or impervious stratum, is met with; they are then walled square, or oblong, with the corners slightly rounded, or round or oval—the walling being about 18 in. in thickness, consisting of bricks or stone. In some cases the stones are large, in others they are small, about 8 in. in the face wide, 3 in. thick, and about 9 in. in the bed. The water met with in course of sinking is small, compared to that in some districts. During the time of walling it is pumped, to allow the masonry to set; after which it is plugged off. In many cases, either from defalcation in the workmanship or inability of the masonry to sustain the pressure, nearly the whole of the shaft-feeders find their way through it, and have to be pumped, in addition to the feeders met with in the course of working the coal, thus adding materially to the working expenses.

The engines are generally condensing, of small power, on the second or third motion, furnished with one rope, and occasionally with two. There are seldom brakes applied either to the fly-wheel of the engine or to the rope roll. In case of the small cogged wheel on the crank shaft, or the large one on the rope roll shaft breaking, or getting out of gear, whilst the men are ascending or descending—there being no brake to retard their downward progress—the result would be serious.

After the pit is sunk, and the level heads have advanced a short distance from it, a large space is cut out, and apartments arranged on one side of the pit bottom, or at the opening into each seam—each apartment being about 5 ft. wide, 6 ft. or more long, and about 4 ft. below the level of the main road, and termed "coal-housers."

The coal in some cases is worked in pillar and stall—pillars from 50 to 100 yards long, 7 or 8 yards wide; heads, 10 yards; and hollings, 2 yards wide. The coal is thus worked over the royalty before the "broken" is commenced, beginning at the far end to bring the pillars back. Where the "thill" is damp, the pillars sink into it, the bords heave, and the coal is crushed; where the roof is jointy and short, it falls freely; where the roof is strong, it falls little—the weight being thrown on the pillars, and the coal does not raise so large. In some cases, the coal is excavated the long way, or wide working—the same arrangement being made at the bottom of the pit for coal-houses. This system appears the best adapted to the district, and produces much less small coal. The workmen are paid by "tall"—so much money for a stipulated number of bushels.

The transit of the coal is performed somewhat in the following manner in the seams 2 ft. high, and in those 5 ft. high the same:—A box, to contain about 2 or 2½ cwts. of coal, is fitted to a sledge; at each end is a "tuggir-loop." A boy "tuggir" is harnessed by the waist with a rope-belt, to which is attached a chain, passing between his legs to the sledge; thus he drags the sledge on the "thill," or ground, until he arrives at the carriage or horse-road, where the sledge is tugged on to a small wheeled carriage, made to hold two sledges, and thence conveyed by horses or boys to the shaft, where the driver empties the contents of the sledge-boxes down into the coal-house. A better system for large blocks breaking small ones into smaller, or into dead small, could not be exhibited. The whole of the pits' workings of coal is then shovelled up into iron buckets, which are drawn slowly up the pit. A carriage fitted with wheels is run over the pit mouth, on to which the bucket is lowered, and thence dragged to the screens or heap. In some cases, the buckets are pulled on to a platform at top of pit and unhooked. In the low or thin seams young boys are employed. When the bottom heaves and the roads get foul, low, or ploughed up, the labour must be exceedingly oppressive and expensive.

The mode of recording the underground workings is curious and original, requiring only a compass set in a wooden square frame, with the margin covered with paper, tape-line, wooden pegs, and a fair field. Thus down the pit the bailie plants his instrument—say, in the horse-road—sets the north end of the needle at north-south at south, and holds the tape-line over the campass to the centre of the needle, whilst a man holds the end of the tape-line into the pit, where it crosses the papered margin; the bailie draws a line parallel to it, and marks No. 1 and distance. The man then holds the tape along the horse-road, &c. The bailie holds on at the needle and marks No. 2 on the margin. The compass is next planted where the man stood, then adjusted as before, and so on to the end of the survey. On the surface the end of the tape-line is held into the pit, the compass moved until the tape is in a line with No. 1 on the margin; the man then proceeds drawing the tape-line on until he has got the proper distance, where it is held in a line with the centre of the needle and No. 2 on the compass margin; at the end a peg is driven into the ground. The instrument is next planted over the end of No. 2 and No. 3, set and measured, and another peg driven into the ground; and so on to the end. The pegging may happen to be made in winter, or when the field was pasture; but in summer, and when the field is in meadow, it is not unusual for a mower to find his scythe fast in one of the bailie's pegs. After releasing his mutilated scythe, and finding out the wooden cause of mischief, he unearths the peg, and, with a hearty "Drat that bailie!" flings from him the wooden record of the mine.

It is not long since that in one of the pits in this district, where no other records of the workings had been kept, except as described, that the men, in the middle of the day's work, "holed" through with their picks into old workings full of water. Fortunately, no lives were lost—the only damage being the loss of materials; but supposing the drowned waste to have extended over 100 acres of two or three seams, with 40 or 50 fms. pressure, what would have been the consequence? How many men would have returned to their homes, and who would have been to blame? The quantity of coal remaining in each royalty unworked would be a problem difficult to solve, unless by a bailie; but, when the bailies "*died!*" records, wooden-headed pegs, where are ye? Carbon.

Bristol, *May* 26.

ON WROUGHT-IRON TUBULAR CRANES, AND OTHER UNFAIR CLAIMS TO INVENTIONS.

Sir,—In your Journal of the 24th inst., I observe one, "Search," lays claim to the tubular crane as a foreign invention in 1846. If a proper "search" is made still further back, some 10 or 15 years, it will be found to have been used on a large scale in the Yorkshire Iron-Works about that period. The *fan-blast*—the invention of which was rather ostentatiously claimed a few years ago—was patented by my brother, a Yorkshire ironmaster, more than 40 years since. The *squeezer*, now so generally in use at iron-works, in this and other countries, was patenteed by the same gentleman more than 35 years ago. The *semi-gravitating* steam-engine, noticed in your Journal, Aug. 25th, 1849, as patented by Mr. John Hastie, of Greenock, was invented and used by myself 30 years back. On reading the account of this patent, I wrote to Mr. Hastie on the subject—not with any hostile intention, but merely to mention the circumstance to him; but not being favoured with a reply from that gentleman, I now call attention to it.—Henry Hartop: *Bamborough*, *Rotherham*, *May* 29.

THE ARBITRATION CASE AT BRITON FERRY.

Sir.—Referring to your Journal for the week ending the 12th April, I beg to call your attention to the very partial statement made by your correspondent with respect to this case. It will, doubtless, be in the recollection of many of your readers that this was a case of arbitration for damages said to have been sustained by the Neath Abbey Iron and Coal Company, in consequence of the construction of the South Wales Railway at Briton Ferry.

After stating the general facts of the case, giving the names of the gentlemen who gave evidence for the plaintiffs, and leading your readers to believe that their evidence was of a most clinching nature, the paragraph goes on to state that—"From the evidence produced for the defence, it was attempted to be shown that the coal could only be worked at a loss; but one of the witnesses (Mr. James Cadman, general manager at the Tondu Iron-Works) would give no reason for, or details of, such an opinion; and Mr. Bond, another witness, had got his experience *solely* in the Staffordshire coal-fields, and could know little of the comparatively narrow seams in Wales."

Now, Mr. Editor, it is of this part of the paragraph that I have more particularly to find fault, and without derogating from the ability displayed by the gentlemen employed by the plaintiffs, I think it is quite right that justice should be done Messrs. Cadman and Bond. I happen to be intimately acquainted with these gentlemen, and can assure your readers that the former has had the experience of a lifetime in the coal-fields of this district; whilst the latter, in addition to great experience in Staffordshire, has had four years' practical acquaintance with the Welsh measures. It is said that Messrs. Cadman and Bond gave "no details of, or reasons for," their opinions, as expressed in evidence. This is a most incorrect statement, for the fact is that they put in a detail cost-sheet of the coal, showing every item of the expense of getting from the stalls to the shipping place, and this was made out from the actual prices paid to the men, so far as these were concerned. But the best proof of the correctness of the evidence given by defendants' witnesses is the fact of the award, which has just been made, being only for 1850*l.* instead of 16,000*l.*, as claimed by the Neath Abbey Company. Surely the evidence which could reduce so large a claim to 1850*l.* must have been of some value!

I should have noticed this earlier, but I was desirous of awaiting the result of the award, which has only just been made. An Observer.

Bridgend, *May* 28.

"FAIR PLAY," AND THE NITSHILL COLLIERY.

Sir,—A correspondent, in your last Journal, under the anonymous and most unappropriate signature of "Fair Play," has done me the honour to refer to the evidence I gave to the Committee of the House of Lords on Accidents in Mines, and, in doing so, has displayed considerable ingenuity in jumbling together the answers to four queries, and perverting the sense and meaning of the whole. Having thus cooked an *olla podrida* to suit his own taste, he invites your readers to the banquet. All this is very amusing, and may be esteemed by some as very clever, if not very creditable. From garbled extracts he deduces the question—"Required the quantity of air necessary to *astonish* Mr. Richardson, or to ventilate a very fiery mine; the current being 1⅛ths mile long?—*Ans.*: 13,500 cubic feet per minute." The following is the answer to the 3759th query referred to by "Fair Play," as published in the *Parliamentary Report*:—"I went underground, and was *astonished at the difference which there was in the state of the air in the mine*. The candles burnt clearly and well; and there was no indication whatever of fire-damp," &c. This extract is quite sufficient to show the *unfair* spirit by which your correspondent was actuated. His motive appears to be to wrest from this evidence that I stated 13,500 cubic feet of air was sufficient ventilation for all very fiery collieries, the air currents being 1⅛ths mile long, which is both erroneous and foolish; for he concludes—"The quantity *in one* district of Nitshill Colliery is 14,000 cubic feet; therefore, &c." (we may fairly presume the &c. to mean), is quite sufficient, according to Mr. Richardson's own showing, for its efficient ventilation.

Without an accurate knowledge of a mine, and of all its peculiar circumstances, it is very difficult, if not impossible, to determine whether 10,000 or 100,000 cubic feet of air per minute be necessary for its proper ventilation. One with the smaller quantity may be much better ventilated than another mine with the greater; and in my communication to your Journal of the 26th April, no exception was taken to the *quantity* of air said to having been passed through the mine on the 11th April, but to the *system* of ventilation pursued. We were told that Nitshill Colliery was solely dependent for its supply of air on "natural ventilation—that is, without furnace, fan ventilation, steam-jet, or any other process for procuring air;" and that by this unaided natural ventilation 14,000 cubic feet of air per minute was obtained. Is "Fair Play" prepared to say that this system is either a safe or a rational one?—or will he venture to assert that this ventilation will continue the same through all changes of the temperature on the surface? I take for granted that he is by far too well informed on this subject to assent to such absurdities as his affirmation to these queries would imply; and that he agrees with me that fiery mines, which rely on "natural ventilation" for safety, rely on a broken reed, and the sooner they change the system the better; for it is replete with imminent danger, and ought not to be tolerated in any civilised country. Why "Fair Play" has attempted to lure attention from the subject, whilst the lives of men are placed in jeopardy by the continuance of the *system*, is difficult to conceive, and remains for him to explain. Had he read the evidence alluded to in a *fair* and candid spirit, he might have instanced the consequences of relying on natural ventilation, as shown by the great and frequent loss of life which occurred in the Eaglesbush Colliery when the system of natural ventilation was pursued there, and the exemption from fatal accidents by explosions which has ensued since Mr. Struvé's admirable ventilating machine was adopted. In reference to the quantity of air drawn through the colliery by this machine, you will, perhaps, allow me to state that, although 13,500 cubic feet per minute is the present amount of its work, it is quite capable of forcing at least three times the quantity through the works, were it necessary. One of the Government inspectors visited this mine; and, I understand, agreed with the owners and men in the opinion that it is well and efficiently ventilated by the quantity of air now passing through it—viz., 13,500 cubic feet per minute.

Neath, *May* 5. J. Richardson, C.E.

HOT SPRINGS IN CALIFORNIA.

Sir,—The *Times* contains an account of the discovery of hot springs, accompanied by other phenomena, in the mountains of California. The same phenomena, however, occur in many parts of Mexico—the whole of the great Cordillera and Sierras of which are known to be of volcanic origin. Adjoining the city of Mexico itself are the hot baths of the Penon (a volcanic rock), which rises from the plain, and from which the water issues at a high temperature. In the neighbourhood of the Real del Monte, at Atotonilco el Grande, elevated 7000 ft. above the level of the sea, there is a spring of hot water flowing from a range of limestone hills at a temperature of 135°. Some of the most extraordinary hot springs, however, are probably those in the great limestone district of El Doctor, where the water is thrown out in a manner very similar to that described by the correspondent of the *Times*. Springs of cold water are not unfrequent in the neighbourhood of the hot water. The caverns of Mexico are remarkable: witness that of Cacaguamilpa, near Cuernavaca, which is 200 ft. in height, more than that in width, and of an unknown depth, containing stalactitic and stalagmitic formations of great beauty and magnitude, and as wonderful a production of Nature as the Great Exhibition is of art.

London, *May* 30. J. P.

MR. COXWORTHY'S THEORY.

Sir,—I am curious to know the meaning of the terms "positive" and "negative," according to Mr. Coxworthy's notions. We know their respective effects and various qualities in electro-plating, in etching, in the decomposition of water, in crystallisation—in a word, in many natural operations; but seeing, Sir, a strange remark by your correspondent, with an allusion of their being changed, I should like to know what he means.

Birmingham, *May* 26. R. C.

Magneto-Electric Machines—Important Improvements.—We observed, in our last Journal, that great improvements have been effected in making permanent magnets, and have now the pleasure to lay before our readers some further information on this subject. Steel magnets have usually been made by striking the steel with loadstones, or permanent magnets; but as these only have a small attractive force, a limited power could only be obtained; while, if they are charged with a powerful electro-magnet, an almost unlimited power may be obtained. In addition to this improved mode of magnetising the steel, an important improvement has also been made by mounting the poles of the magnets with a sort of socket of wrought-iron, instead of brass, which hitherto has been used. The whole magnetism of the different layers of steel accumulate in the said socket; while the total power of a compound permanent magnet without socket never corresponds to the attraction of the single layers. Several magnets of this improved description are deposited at the Exhibition—amongst others, a small one, about 12 in. long, which supports 112 lbs., and a larger one which is said to support between 1 and 2 tons. It is by these great improvements that it has become possible to produce great *quantities* of electricity; and, while magneto-electric machines are now used in different countries for working telegraphs, they are now also applied for depositing metals of different descriptions, instead of galvanic batteries, in Staffordshire.

Mr. Shepard, of Parliament-street, has taken out a patent on behalf of Mr. F. Nollet, of Brussels, for some new arrangements of electro-magnetic elements to obtain heat, light, and motive-power. The patentee employs four compound magnets—each composed of from seven to nine bars of very hard-tempered cast-steel, each bent into two parallel legs, and arranged in two pairs by means of plates of wood or brass, and adjusting screws—the magnets being kept at the same distance apart as the bars of which each magnet is composed. They are fixed horizontally on a frame, so that their opposite poles face one another, and at such a distance that the ends of four helices pass during their rotation immediately over and between the poles of the magnets, and as near as possible without touching. Eight helices, formed of two very fine copper wires, insulated by gutta percha, are united in pairs by being mounted in a wooden spindle; and the horizontal axis on which they turn is centred upon two steel pivots, passing through the middle of the armatures, where it is firmly secured. This axis carries two pairs of ivory discs, or pullies, into which are inserted four segments of copper, cemented by gutta percha, and separated by slips of ivory, kept a little in relief, to prevent the copper segments from ever touching two of them at once. The metallic segments communicate by means of arms, arranged in the form of a cross—the direction of the diagonal of one disc corresponding to the other of the same pair, whereby all the currents are made to flow in one direction. By these means, two pairs of primitive currents are obtained, constant in one direction, and of an intensity capable of producing various physical phenomena—such as heating to redness and fusing metallic wires, rendering large cones of carbon incandescent, causing rapid chemical decomposition, obtaining motive-power, &c. There are several other modifications of the system—the minute details of which cannot well be explained without diagrams. One of them is effected by forming the eight helices into a pendulum; another is termed the "rolling system," and the entire arrangements appear very effective and ingenious.

The Electro-Magnetic Locomotive in the United States.—Several interesting experiments have lately taken place with this novel invention of Professor Page. One of these was from Bladensburg to Washington. At the time the locomotive started, its progress was so slow, that a boy was able to keep pace with it several hundred feet. The speed, however, soon increased, and when the power of the battery was fully up, the locomotive began to run on nearly a level plane at the rate of 19 miles an hour. This velocity was continued for some time, when one of the cells being broken, the acids were intermixed, by which the propelling power was partially weakened. The cells were made of light earthenware, merely for experiment, without reference to durability, consequently those of stronger material will guard against the recurrence of accidents. The great point was established that a locomotive on this principle could travel 19 miles an hour. It is, however, susceptible of further improvements: being the first of its kind it is imperfect, and from the newness and stiffness of the work runs exceedingly hard. It has greater power at a low speed, and its most serious defects arises from a want of insulation in the helices. In this trip the engine was backed three times, without losing headway; the reversing power is greater than the propelling—nearly twice as great. When the engine is reversed the magnetic-electric induction is in favour of the battery current, and augments its effects. The defect of the cells will be easily remedied. The trouble caused by the oscillating motion of the car, can all be obviated, by using rotary instead of reciprocating engines. The greatest speed attained in the last trip was 19 miles, being seven more than on any former occasion. Less than 200 lbs. is required to keep it in motion on a level plane.

Railway Torch.—An ingenious piece of mechanism has been invented by Mr. Robert Brown, North Bridge, intended to facilitate the lighting of railway and other signal lamps in exposed situations. In stormy weather much difficulty is often experienced in getting the elevated signal lamps lighted at dusk; and the only way in which, in many cases, it can be effected, is by taking down the lamp off the post, conveying it to the station, often at a considerable distance, lighting it there, and carrying it back in a bag to be replaced on the post. This involves an expenditure of time, trouble, and risk to the lamp, all of which is saved by the ingenious, yet cheap and simple apparatus referred to.—*Scotsman*.

Several eminent firms in Belfast are about to engage in iron shipbuilding at that port, and have lodged requests for yards with the Harbour Board.

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ON THE CAUSES AND PREVENTIVE REMEDIES OF STEAM-BOILER EXPLOSIONS.

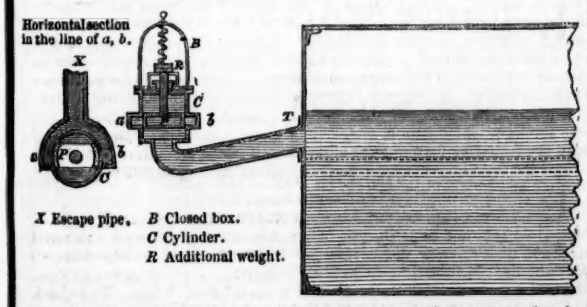
SIR,—The information which I have obtained from your Journal that on an average of the last three years, annually 300 men and boys lost their lives by boiler explosions, has imposed it as a duty upon me to send you for publication in your Journal, which you so humanely open for the benefit of the working people, a compendium of my memorial, directed to the Society of Arts and Sciences, "On the causes of steam-boiler explosions, and the remedies to prevent them, with a newly-invented safety-valve, with such a powerful effect, as to save the boiler even in the last moment of danger." However well the causes of explosions are known to scientific men, it is only an extended publicity which will apprise the stoker or renders of boilers of the danger, and influence them with due caution.

London, May 28. BERNHARD VON RATHEN.

ABSTRACT OF A MEMORIAL ON THE CAUSES OF BOILER EXPLOSIONS, AND PROPOSALS OF PREVENTIVE REMEDIES, WITH A NEWLY-INVENTED POWERFUL SAFETY-VALVE.

It is here presumed, what is generally the case, that no fault can be ascribed to the boiler-maker, and that the strength of the boiler could support twice or thrice the pressure under which it was intended to work it. This was ascertained to be the case at the last Manchester explosion, according to Mr. Fairbairn's most scientific and lucid report. There are still two causes of explosions, irresistible even to any strength of boiler. The first is, when the water-level in the boiler falls under the heating surface of the flues. The second, when from feeding the boiler with cold impure water hard incrustations on the bottom of the boiler are formed, under which the iron, being exposed to a much higher degree of heat, is constantly more weakened and consumed, till it cannot desist the force of even low-pressure steam. It is well known to the scientific, but not to those who ought to know it (the proprietors and tenders of steam-boilers), that when the water in the boiler sinks under the heating surface, and the iron of the boiler inclosing the steam-chamber becomes red-hot, an explosive gas is created, in such immense quantity and rapidity, that no boiler, however strong and new, can resist it; probably, this was in Manchester the principal cause. The engine was several hours stopped; the fire under the boiler burning, and no fresh water supplied. Wise and prudent engineers will follow the (perhaps, to thousands of your readers unknown) example of Messrs. Maudsley and Field, who have connected with the large engine a small pumping-engine, which provides the boiler regularly and continually, even when an accident has put the large engine out of work; or they should have, at least, a hand-pump, prepared to work it by men, and supply the boiler in cases when the machine is standing for a longer time. In low-pressure stationary engines, a water-tank, at an adequate height, will do the same. In both cases, of course, a well-combined independent water regulator is presumed to be provided; and by those remedies the danger of a too low water-one would be entirely avoided. There are so many improvements in water regulators patented—even a steam-whistle—when the water falls low, that I considered it unnecessary to make any further suggestion for that purpose; but it is much more difficult to escape the dangerous incrustation of the boilers, which may cause many more explosions than are ever thought of, particularly in the manufacturing districts, where the feed water is often impregnated with mineral and other substances, producing almost indestructible incrustations. Many inventions have been patented to avoid incrustation of boilers in a *chemical* way, by throwing, from time to time, a proper proportion of certain compounds in the boiler; still all depends here, again, upon the continual watchfulness and attention of the stoker; and an explosion is too great a disaster to be left, to be guarded against, to the care of one man alone. I know only one remedy, which requires no man's control; and this is to feed the boiler with purified hot water, to render *incrustation impossible*. Economy and perfect safety are hereby united. If the object to save human life was not so imposing a duty, I should hesitate to name the patented invention by which steam-boilers in daily use through the last nine years have been perfectly protected, because it is a *patented invention of my own*. Nevertheless, there is no better remedy against incrustation, than to do away with the *cause* of its formation. Any of your readers desirous to convince themselves of the truth of my assertions, can do so by calling at the sugar refinery of Messrs. Wainwright and Gadesden, Christian-street, St. George's-in-the-East, where my invention, called the "metallic flues," has been nine years in constant use; and in their boilers a hard incrustation is unknown. Besides this complete safety against explosion, a very great economy in fuel is created in the following manner:—When the flames and smoke have been conducted in all ways round the boiler, instead of letting them escape in the chimney, they are conducted through a set of three or four cylindrical tubes or small boilers, with a flue within it, and a ring of water surrounding the flue. The cold water is supplied to the tube, which is the next to the chimney, and passes from one to the other, heated by degrees; and from the last the boiler is supplied with hot and purified water, generally in a boiling state. If I have sinned in explaining, for the sake of humanity, a patented invention, I hope to redeem it by offering you, in the accompanying diagram and description, my invention of a most powerful safety-valve, free from the faults of those at present known, as a gratuitous present to the public.

DESCRIPTION OF A NEW SAFETY-VALVE.



X Escape pipe. *B* Closed box. *C* Cylinder. *R* Additional weight.

In describing my safety-valve for extreme cases, it is supposed to be fitted up near to the place, and in sight of, the stoker, in connection with the boiler, by a tube which is fitted to the boiler between the highest and lowest water-line. In the moment of danger this tube will at first carry away the hottest water, a material containing 1700 times its cubic contents in steam; and, if this does not help, it will convey steam to any extent. The great defect of all the present safety-valves is their insufficiency, and their liability, when of a large capacity, to fasten themselves to the boiler, by a combination of causes, under which the constant pressure of a very heavy weight, under all temperatures of the boiler, is a principal agent. The object of this invention is to provide nearly an unlimited capacity for the outflow of water and steam, when the valve opens, without requiring at all a heavy weight. A slight reference to the diagram will show that a part of a piston fits in a cylinder in such a way, that it allows the water or steam to balance itself over and under the piston; and no more weight is required than to equalise the sliding piston-rod. The piston, in the moment of danger, moving upwards opens both tubes *a* and *b*, branches to the escape-pipe. No pressure is exercised against the sides of the piston. The piston itself may be brass, and hollow within or full, according to the pressure of the steam, as the piston itself serves as a floating weight against the piston-rod. The upper part of the piston-rod can also be loaded with any weight, reposing upon a basement over the metallic ring. There is no cause imaginable why this sheet-anchor safety-valve should not work when wanted. Of course, this new safety-valve is considerably more loaded than the regular safety-valve upon the boiler. The box is closed, and the key deposited in the hands of the superintendent. The same arrangement, the same principle, but on a proportionate minor scale, could also be applied for the regular steam safety-valve on the boiler. Adhesion being impossible, no failure could happen. It must be here remarked, that the piston must fit extremely easy, and that friction on the sides of the cylinder must be almost nullified, which in our time of so great perfection in workmanship is not too difficult a problem; and it must be considered that even a hair-breadth escape of water, which being standing in the tube, T, gets cold, cannot be too high a price paid for certain and invariable safety.

I may here remark that this diagram shows merely the principle; the details must be left, and the calculation of proportions under any pressure, to the resident engineer. Instead of cylindrical, the sliding-valves could be squares, or of any other form whatever. A weak spring upon the piston-rod may assist in quickly closing the openings, as soon as the extreme pressure has passed.

THE AUSTRALIAN MINING COMPANY.

An extraordinary general meeting of shareholders was held at the offices, Adelaide-place, London-bridge, on Thursday, the 29th inst.,

CHARLES DOWNES, Esq., in the chair.

Mr. JOSEPH (the secretary) read the notice convening the meeting, which was to consider and decide on the expediency of adopting the report of the committee of inquiry, appointed at the meeting of shareholders held on the 3d Feb. last. Also the expediency of reducing, as soon as such reduction shall be practicable, the number of directors of the company from nine (the present number) to five, including chairman and deputy—two directors, after such reduction, to go out of office annually. Also the expediency of investing such of the present and all future trustees of the company, as are not also directors, with the power of being present, though not entitled to vote, at all board or other meetings of the directors, and of having access at all times to the company's books and papers. Also the expediency of forthwith abolishing and putting an end to the company's committee of management in South Australia, and on other business therein specified.

The CHAIRMAN then informed the meeting that the following were the names of those directors who had sent in their resignation.—Messrs. J. Masterman, jun., H. J. Enthoven, G. E. Hodgkinson, B. E. Lindo, John Capper, and James Ashwell, leaving the board, as at present, represented by Mr. H. R. Wotton, Mr. James Brandies, and himself. He (the chairman) then went through most of the charges of complaint specified in the committee's report, and, in a great measure, exhonerated himself from a willing participation in the cause of them. He could say the same for his two colleagues, who had never forsaken him: they had fought as one man. They united, however, with him in pleading guilty to that part of the charge wherein the committee stated "the business had not been conducted as it ought to have been." There was ample ground for such charge, and good reason why it should have been made; but it applied to those who had abandoned them more than to themselves. They differed on so many points, that he had actually found it necessary to put a notice on the books of his intention of taking steps to convene a special meeting of the shareholders. Fortunately, while it was under consideration, a requisition came in from another quarter, and so enabled him to withdraw the step he had considered necessary, in justification of his own conduct. He then read the following circular letter from Mr. Sheriff Hodgkinson, addressed to the shareholders:

GENTLEMEN,—The meeting having yesterday determined upon the injustice of printing and circulating the report of the committee, without giving my colleagues and myself the opportunity of explanation and reply, which we were desirous and able to afford, I have felt it to be due to myself to at once forward my resignation as a member of the board of directors.—G. E. HODGKINSON: 74, *Cornhill, May* 14.

He was sorry that he was not there to offer explanations, as neither were either of the directors who have forsaken them. Resolutions were prepared, and would be severally proposed to the meeting; in the meantime, the board would be happy to answer any questions that might be put to them.

Mr. R. F. DAVIS (chairman of the committee) asked whether the directors whose names were specified, had actually and positively resigned? and was answered in the affirmative.

Mr. ANDERSON (a member of the committee) rose contrary to the wish of his colleague, and commenced by saying—I contend for the resignation of every one—the three that are in, as well as the six that are out. Let all stand on an equality; and when all are out, those who choose to offer their services, may or may not be re-elected. If I stand alone among you, gentlemen, I ask for this—let us call upon them all to resign, and let us at once accept their resignation.

The CHAIRMAN explained, that the company was so constituted that they must continue three in the direction in order to form a quorum, and they had no power at the moment to elect or re-elect until the next annual meeting, unless a special general meeting was called for the purpose.

Mr. DAVIS assured Mr. Anderson that, if all resigned, the business proposed and in hand would be null, producing a sudden stop to every operation and step endeavoured to be taken for their better government in future. The solicitor of the company was present; what did he say?

Mr. PEILE (the solicitor) said, that undoubtedly the proceedings of the day's meeting could not be made legal unless three recognised directors were present to certify the business done.

Mr. JAMES BRANDIES (a director) expressed his determination of retiring from the board. He had not thought proper as yet to do so, as it would be leaving his colleagues powerless: he merely wished the shareholders to understand that he meant to vacate his seat, and to entreat them not to solicit him to re-fill it. He would, therefore, state candidly to them that, finding himself so completely in the minority at the board, and his repeated remonstrances in vain, he could no longer contend against them—in fact, the chairman, Mr. Wotton, and himself, were generally left in a minority upon any question of importance. He, therefore, considered it his duty to take such steps as should be instrumental in bringing forward a committee of inquiry, and he had so far succeeded. They had acted; and the result of their examination was plain enough for any one to see and judge of.

Mr. DAVIS said, that as far as the committee and the report were concerned, they united in but one sentiment up to this moment. They stood by their report now as they did the hour it was first handed in; for since then nothing had turned up in explanation or otherwise as to cause them to desire the alteration or withdrawal of one word of its contents. They united also in stating to the shareholders that Mr. Brandies, from the first hour he entered the board as a director, had ever served them well and faithfully, and deserved the especial thanks of them all. It now behoved them to proceed on with the business which had caused them to assemble there. The resolutions to be proposed had been well considered, and were drawn up by their solicitor; but prior to that it was necessary he should state to them that certain parties had misconstrued a portion of their report relating to the present secretary. They wished most distinctly to deprecate the charge of any injustice to that gentleman. They did not attribute the slightest intention of any pecuniary malversation on his part, and considered it due to him thus publicly to declare so.

The following resolutions were then passed unanimously:—

That the report of the Committee of Inquiry, appointed at the extraordinary general meeting of shareholders, held on the 3d day of February, 1851, be adopted.

That certain of the directors having resigned their office, so much of clause No. 5 of the company's Deed of Settlement, as provides that there shall be a chairman of the company who shall also be one of the directors, a deputy-chairman, who shall also be one of the directors, and seven other directors, and so much of clauses 39, 41, 42, 45, and 83, as appertained thereto, be respectively repealed and made void, without prejudice to any other parts of the said Deed of Settlement; and that henceforth there be a chairman of the company who shall also be one of the directors, a deputy-chairman who shall also be one of the directors, and three other directors; that at the annual meeting, to be held in the month of July, in the present and every future year, the two directors who shall have been the longest in office shall go out, and that at every future annual general meeting to be held in the month of July, two new directors shall be elected in the place of the two directors going out as last aforesaid; and that at every annual general meeting, at which two of the directors shall go out of office as aforesaid, the directors going out of office shall, for all the purposes of that meeting, be considered as directors in office, until the end of the meeting; and that a majority of the board of directors, of whom not less than four shall be present (such majority be ascertained by ballot), may at any time suspend, or remove, any trustee from his office for any cause which such majority shall deem sufficient.

That such of the present and future trustees of the company as are not also directors be empowered to be present, though not entitled to vote, at all board or other meetings of the directors, and to have access at all times to the company's books and papers.

That clause No. 76 of the company's Deed of Settlement, regulating the amount of salary or remuneration to be allowed to the directors for their trouble, be repealed and made void, without prejudice to any rights, absolute or contingent, of the present or late directors, or the representatives of deceased directors, in respect of salary or remuneration for their trouble, from the date of the company's Deed of Settlement to the 15th day of June, 1851, and without prejudice also to any other parts of the said deed; and that from and after the said 15th day of June, 1851, the sum of 200*l.*, commencing from that day, and such additional sum, if any, as may be voted to them by any annual general meeting of the shareholders of the company for the year then last past, be allowed to the directors for their trouble; the same to be divided amongst them in proportion to their respective attendances at their board meetings during the year, except in the case of the chairman of any such board meeting, who, in respect of his attendance at such meeting, shall be entitled to receive double the amount, or proportion, receivable by any other director attending the same.

That the company's Committee of Management in the colony of South Australia be forthwith abolished and put an end to, without prejudice to any rights of the present or late members thereof to remuneration for their past services; and that clauses No. 8, 65, 66, 67, and 68 of the company's Deed of Settlement, respectively relating to such committee of management, be respectively repealed and made void, without prejudice to any other part of the said deed.

Mr. BUCKLE inquired whether Mr. Sheriff Hodgkinson had sent in any explanation of the facts that stand against him upon the report of the committee?

The CHAIRMAN stated that no explanation had been sent to or received at the office. In regular course, in July, both Mr. Wotton and himself would retire in rotation, subject to re-election, if approved of.

Mr. MONTEFIORE said the shareholders, as a body, ought to feel much obliged to them for continuing to protect their property in the interim; for if they were to do otherwise, it would jeopardise the concern, and upset all the projected arrangements for the future.

Mr. DAVIS then rose to explain the nature of the clause in the deed as regarded remuneration to the directors. It was this:—Supposing in any one or more years they paid a dividend, altogether amounting to 5 per cent., the board were immediately entitled to 1000*l.* a year from the date the deed was adopted; in fact, at the expiration of 20 years, if they received in one, or even in five years as much as 5 per cent. altogether, in the shape of a dividend, the deed provided 20,000*l.* for the board. It really was to that effect, whether meant or not; and, of course, they had only done justice to themselves in annulling such dangerous clauses or intentions. Mr. Davis then thanked the shareholders for the patient manner in which they had listened to the very long statements he had submitted to them. The committee had only done their duty, and having done that, they, as a body, were now defunct.

Mr. BUCKLE suggested, that the committee having performed their duties so well, and to the satisfaction of all present, that it should be left to them to propose such persons as they deemed fit to fill the three vacancies in the board.

Mr. SHEARS (one of the committee) then proposed the following names:—The Chairman and Mr. Wotton, and that Mr. Masterman be earnestly solicited to give his most valuable services: the committee and shareholders were already greatly obliged to him, and hoped he would be induced to resume his seat at the board. This would leave only two vacancies, and they could not be better filled than by Mr. Davis and Mr. Shepherd, two of the most active members of the late committee.

Mr. BRANDIES rose most cordially to second the proposal of Mr. Shears.

The motion being put, was carried by acclamation.

Mr. SHEPHERD rose to advise the election of the four first-named, and to solicit them to select a more fit and proper person than himself. An extraordinary general meeting must be called to elect them, of which 14 days' notice was required.

Mr. DAVIS said that he did neither solicit or expect office; but from the assistance he had derived from Mr. Shepherd, as one of the committee, if he consented to stand as one of the board, he would unite with him cordially in doing the best in his power for the benefit of the concern.

A SHAREHOLDER said, of course this meeting did not pledge itself to elect the five named if better men offer themselves in the *interim*; other parties might be induced to offer themselves.

The CHAIRMAN stated that the regular and formal notice for the meeting would issue forthwith.

Mr. MONTEFIORE proposed a vote of thanks to the gentlemen of the late committee, who had exerted themselves greatly, and performed the duties in a way that was so satisfactory and business-like as to call forth the warm acknowledgments of the proprietary. Their report and recommendations could not fail of being generally approved of; and, doubtless, being carried out as now intended, their property would soon experience the benefit of it.

Mr. PEGLER having seconded the motion, it was carried unanimously.

Mr. MONTEFIORE next proposed a vote of thanks to their chairman, to Mr. Wotton, and Mr. Brandies for continuing to keep the concern upon its legs, and for their constant attention to the affairs of the company.—Capt. PETER PAGE and Mr. BUCKLE seconded the motion, which was carried unanimously.

The CHAIRMAN returned thanks on behalf of himself and his two colleagues, assuring the shareholders that the continued confidence placed in them would tend to strengthen their desire to do all in their power to merit their approval at a future day; and, if they erred, it would be on the score of judgment only.

Mr. ANDERSON consoled himself by the fact, that the present position of the company, and value of their shares, could not possibly be worse; better they might be.—The meeting then separated.

THE NATIONAL BANK OF IRELAND.

The sixteenth annual general meeting of proprietors of the National Bank of Ireland was held at the office of the society, Old Broad-street, on Wednesday,

J. C. RUDING, ESQ., in the chair.

The advertisement convening the meeting having been read,

Mr. KING (the secretary of the company) read the directors report:—

The directors have the honour to present to the proprietors their annual report. It does not on the face of it show the same favourable results as have attended the operations of the bank in former years; but this may, in a great measure, be explained from the new and altered form in which the various accounts are now furnished. The bank never stood in higher credit with the public, nor possessed within itself greater elements of prosperity.

The directors need not remind the proprietary that this bank has always been considered a national establishment. Its declared aim and object have been from the first to aid the hard-working and industrious agriculturist, as well as the more wealthy trader, and to afford accommodation alike to the poor and the rich, when such could be done without unreasonable risk.

The directors may point with pride and satisfaction to the important assistance this bank has rendered in developing the trade and aiding the agricultural resources of Ireland. At the same time, they have deeply to regret that, owing to a combination of uncontrollable events which have caused commerce to languish so long, and every kind of property to undergo so great a depression, losses have occurred beyond what could have been expected in the ordinary course of business, and which no caution and prudence could have averted.

Amid the famine and disease with which Ireland has been visited, followed by the commercial panic of 1847, the revolution which has taken place in all landed property, and the emigration of so many small farmers and industrious shopkeepers, it could not be expected that this bank could escape from loss, and it is well that in former years there had been laid aside a reserve fund to meet contingencies of such a nature. Of this fund the directors have necessarily, but most unwillingly, availed themselves to write off debts which have become irretrievably bad, and to provide for a further loss which they have estimated as likely to arise on others of a doubtful character. Upon some outstanding transactions the bank holds life policies as collateral securities, the premiums on which are paid by the bank. To meet this charge the board has thought it prudent to make provision by laying aside the sum of 8000*l.* as an insurance fund.

For the future more favourable prospects are in view. The accounts generally show a gradual improvement in the condition of Ireland; the fairs are better attended; all kinds of stock bring higher prices; and it is hoped that from other important changes taking place, combined with the introduction of more capital, and greater skill and enterprise bestowed on agriculture, results will arise greatly beneficial to the country at large.

With these remarks the directors beg to present to the proprietors the following accounts, which, taken together, will show the actual position of the affairs of the bank. The first statement is the profit and loss account usually exhibited:—

The undivided profits at December, 1848, were		£50,105	4 4
Profits for the year ending December, 1850		25,161	11 5
		75,266	15 9
Deduct half-year's dividend to Midsummer, 1850	£11,250 0 0		
Ditto ditto to Christmas	11,250 0 0—22,500 0 0		
Bad debts	29,710 18 10		
Fund for doubtful debts	20,000 0 0		
Insurance fund	8,000 0 0—73,210 18 10		
Leaving amount at credit of reserve fund at Dec., 1850		£ 2,055	16 11

The second is an account of the assets and liabilities of the bank:—

ASSETS.

Government stock, Exchequer bills, cash on hand and at bankers'	£828,561	18 11
Bills discounted, loans and advances on current accounts	1,378,065	15 8
Advances covered by other securities	82,515	18 6
Doubtful debts, against which a sum of 20,000*l.* has been allocated as a fund per contra	53,435	6 7
Bank premises—London, Dublin, and branches	29,298	13 5
Total assets	£2,371,877	13 1

LIABILITIES.

Paid-up capital—London stock	£450,000 0 0	
Local stock	21,197 10 0—471,197	10 0
Circulation	670,826	5 0
Due by the bank on deposit receipts, current accounts, &c.	1,191,798	1 2
Fund for doubtful debts	20,000	0 0
Insurance fund	8,000	0 0
Reserve fund	2,055	16 11
Total liabilities	£2,371,877	13 1

This account exhibits so clearly and unequivocally the credit which the bank maintains with the public, the great resources which it possesses, and the liberal aid it in return affords to the community, that the directors have thought they should best advance the interests of the shareholders, after what has lately passed, by presenting this account in detail; and they feel persuaded that the information it contains will not only give satisfaction to the meeting, but be the means of ensuring for the bank increased confidence on the part of the public.

There are now four directors to be elected, in the room of the four directors who, agreeably to the Deed of Settlement, retire by rotation at this meeting—Fowler Newsam, Esq., George Ashlin, Esq., Octavius Ommanney, Esq., and Robert Sutton, Esq., all of whom are eligible and are candidates for re-election. The appointment of F. C. Brown, Esq., who has been appointed a director by the Court of Directors, to supply a vacancy which occurred since the last annual meeting, will also now require the confirmation of the present meeting, when the four vacancies occasioned by directors going out by rotation shall have been supplied; and when the appointment of Mr. Brown shall have been confirmed, the total number of directors will still be less by three than the number authorised by the deed, and it is now competent for the proprietors at this meeting to supply those vacancies.

The directors have to report that they have received notices agreeably to the provisions of the Deed of Settlement, of the names of three proprietors who, in addition to the four directors going out by rotation, will be proposed at this meeting to supply vacancies in the directory—viz., Jeremiah Dunne, Esq., Robert Rundell Guinness, Esq., and James Haughton, Esq., all of the city of Dublin, whose accession to the bank the directors believe will prove beneficial to the general interests.

The CHAIRMAN said that the report which had just been read was so full and comprehensive that it left him very little to say to them upon that occasion. He hoped that the detailed manner in which the directory had presented their accounts to the meeting would be satisfactory to them, and that it would tend to increase, if possible, the confidence which the proprietors felt in the present management of the bank. He had nothing further to add, except to state that if any gentleman had any observations to make, he should be very happy to hear them.

The Rev. Dr. MAGEE said he wished to know what had been the profit and loss in the Dublin branch of the bank during the last year.

The CHAIRMAN said that he was not at the moment prepared to give any detailed information upon that point, but he should in the course of the afternoon satisfy the rev. gentleman upon the subject.

Mr. GARTLAND said he then rose for the purpose of moving that the report which had just been read should be received, adopted, and printed for circulation among the shareholders. It was stated in the report that the bank continued to hold its place, not only in the confidence of its shareholders, but in the confidence of the public generally. He thought that the best proof which could be afforded of the truth of that statement was to be found in the accounts which were inserted in the report, and more especially in the large amount of deposits which were at present held by the bank. The amount due now by the bank on these deposits was not less than 1,191,798*l.* Now, when they recollected the agitation—the necessary and salutary agitation, as he should call it—which had taken place in the affairs of that establishment within the last six months, and when they recollected that it had become the interest of rival parties to exaggerate and to mis-state the nature of that agitation, it could not but be matter of pride and of satisfaction to the shareholders to witness the large amount which had thus been deposited in their bank. That circumstance afforded the most conclusive proof that in the opinion of the parties most competent to judge of the position of such an establishment, the National Bank of Ireland was entitled to the highest character for stability and credit. (Applause).

Mr. DENNEHY believed that there was no bank which possessed so large a share

of the confidence of the people of Ireland as the National Bank. He also believed that there was as good a field for safe, profitable, and legitimate banking operations in the City of Dublin at the present day as in any other portion of her Majesty's dominions, and he earnestly hoped that the present board of directors and the new board to be appointed in Dublin, would communicate with each other as to the best mode of extending their operations in the Irish capital. He knew hundreds of men in Dublin who had realised by trade property to the amount of 1000*l.* or 1500*l.* a year, and who had never had any banking account in their lives. Now he thought that the managers of the National Bank ought to use every possible means to induce such parties to bank with them: for the essence of banking consisted in inducing the public to deposit their money in a bank, while the bank afterwards lent out that money on good security, and at a fair rate of interest. That, however, had never been done in Ireland, and he thought that the time had come for commencing so good a practice. He was glad to find that they were to have an infusion of new blood in the management of the bank in Dublin, and he highly approved of the selection of gentlemen to fill the office of local directors in Ireland. He believed that it would have been impossible to have made choice of persons better qualified by character and station to fill that position. In conclusion, he had only to state, that although he regretted the position which that bank still occupied, he believed that they had never received a more honest and satisfactory statement of accounts than that which they had then under their consideration. (Hear.)

The CHAIRMAN said, he wished to reply in a few words to the statement which the gentleman who had just addressed them had made with respect to the low price of their shares in the market. Immediately after a searching inquiry had been instituted into the state of the bank, and after the shareholders had become convinced of the honour and integrity of those by whom that inquiry had been conducted, the shares of the company had risen from about 17*l.* 10s. to about 21*l.* They had, however, again begun to decline, when a fresh agitation had been got up in Ireland. (Hear, hear.) The meeting must be perfectly aware that while agitation prevailed it was impossible that any commercial speculation could prosper. It was the earnest wish of their directors to produce perfect harmony in the establishment, and it was with that view that they had restored the inspectors. (Hear, hear.) They had thought it their duty to accede in that respect to the unanimous wish of the largest meeting, perhaps, ever held in that room. He should repeat that the fall which had recently taken place in their shares had not been owing to any misconduct on the part of the directors, but to the course pursued by certain gentlemen who had recently got up a fresh agitation in Ireland. He could assure the meeting that that agitation had kept the directors so much employed that they had scarcely had any time to go through the regular business of the office, although they had remained there three or four hours at every sitting. He was happy to perceive that the meeting appeared to approve of the mode in which the directors had that day presented their accounts. It was their desire to improve in every possible way the condition of the bank, and to increase, if possible, the confidence which they already enjoyed. They had reserved a sum of 20,000*l.* for the purpose of meeting bad and doubtful debts, and they had established an insurance fund to the amount of 8000*l.* He believed that those arrangements would tend materially to increase public confidence in the bank, and to improve its position. There remained to them a reserved fund of only 2000*l.*, but it should be remembered that that sum remained to them after providing for all possible future contingencies. He was glad to find that Mr. Gartland approved of the choice of the new directors in Dublin. That gentleman had very properly stated that those directors had been selected from members of various creeds; and he (the chairman) hoped it was well known among the shareholders that they had no distinction of creed, that political and religious differences were totally unknown in that board. (Hear, hear.) They had nothing but the interest of the shareholders at heart, and that interest they were anxious to promote by every legitimate means in their power. That was a national bank, and he trusted that they should ever go with the nation. Throughout those recent events which had unhappily distracted their establishment, the people of Ireland had shown great confidence in the bank, and in the resources at its command. He was sure that but for that circumstance a run would have been made upon the bank. He was glad that a run had been averted, and he could not help expressing his gratitude to the people of Ireland for the manner in which they had behaved on the occasion. He should add, that their confidence had not been misplaced, for the managers of that bank had been prepared to meet any emergency. At the time the agitation had commenced they had 1,000,000*l.* ready at a moment's call. He had only further to add, that he trusted that the hopes which the directors had expressed of an improvement, not only in the position of Ireland, but in the position of the bank, would be fully realised when next the directors would have to present a report to a meeting similar to that which he then had the pleasure of addressing.

Mr. LAMIE MURRAY said he thought the shareholders had every reason to congratulate themselves on the present position of the company.

Mr. E. POWER said he believed that the expenditure in the London office of the bank amounted to between 11,000*l.* and 13,000*l.* a year.—The CHAIRMAN said it did not amount to 10,000*l.* a year.

The Rev. Mr. DALY, of Galway, said he certaintly felt much surprised at finding that the shares of that company had always been at a low price in the market, and he should be glad to receive some better explanation than he had yet heard upon that subject. He had no large sum of his own invested in the bank, but he was the trustee for a considerable amount of property invested in it. Now, he felt more interested in the state of that property than he could feel in the state of any property which might belong to himself personally; and he had always experienced much surprise and regret at finding that the shares of the National Bank of Ireland had never been as valuable as those of other similar establishments.

The CHAIRMAN said that since the present directors had come into office the price of their shares had been raised in the market, and that they had only declined after the commencement of a new agitation.

The Rev. Dr. MAGEE said there would be no use in denying that the bank had not, until within a very recent period, enjoyed any large share of public confidence. He believed, however, that confidence had recently been acquired in Ireland, and most assuredly in England (hear); for he had been told that every day, by six or seven commercial gentlemen of the highest character in London, that since the recent change in the constitution of the board, there could be no fear of the prosperity of the bank, provided the shareholders supported their new directors, and taught them to practise economy. (Hear, hear.)

After some further discussion the motion for the adoption of the report was then put and unanimously agreed to.

The gentlemen who retired by rotation from the board of directors—viz., Mr. Fowler Newsam, Mr. George Ashlin, Mr. Octavius Ommanney, and Mr. Robert Sutton, were then unanimously re-elected.

A motion for the confirmation of the appointment of Mr. F. C. Brown, as made by the directors, to a place in their board, was afterwards unanimously adopted.

Mr. J. Dunne, Mr. R. Guinness, and Mr. J. Haughton were next appointed, without a dissentient voice, members of the board of directors.

Mr. J. O'CONNEL said he wished to inform the meeting that, as he resided in Dublin, he should feel it his duty to assist at the meetings which might be held by the other gentlemen who had just been named directors in that city. In his opinion he could not abandon his right so to aid in their labours without a sacrifice of self-respect; and he should, therefore, request that the shareholders would either confirm the claim which he then put forward, or that they would altogether strike his name out of the list of directors.—Mr. GARTLAND said that he thought that that was a subject upon which that meeting ought not to be called upon to decide, and that it ought to be left altogether in the hands of the board of directors.

After some further conversation on this point, the subject was allowed to drop, the shareholders declining to take any part in the decision upon the matter.

Mr. GARTLAND moved a vote of thanks to the chairman for his very admirable and efficient conduct in the chair.—The Rev. Mr. DALY seconded the motion, and said that he had never seen the duties of that office discharged with more courtesy, ability, and impartiality, than by the gentleman who had presided over that meeting.

The motion was cordially and unanimously adopted.

The CHAIRMAN acknowledged the compliment, and the meeting separated.

IONIAN BANK.

At the annual general meeting of this concern, held the 29th instant, a report was presented, showing a steady progress in the business of the bank in all its departments. The anticipations of improvement during the year 1850, held out in the last report of the directors, had been fully realised. The item of preliminary expenses had at last disappeared from the accounts. The portion of the bank's profits usually devoted to that purpose was now recommended to be applied to a fund for the depreciation of the bank's three different establishments in the island.—The accounts showed the rest on the last occasion to be 13,542*l.* 16s. 11d.; nett profits of 1850, 11,779*l.* 4s. 2d.: making 25,322*l.* 1s. 1d.—Deduct two half-yearly dividends, at the rate of 6 per cent., 9000*l.*: leaving a balance to the credit of profit and loss of 16,322*l.* 1s. 1d.—The two retiring directors having been re-elected, the report was adopted unanimously; and a vote of thanks was passed to the chairman and directors, when the meeting separated.

ROOFING THE BRITANNIA TUBULAR BRIDGE.—We have already noticed the singular and novel process at present being carried on with respect to the Britannia Tubular Bridge. In consequence of the upper surface of the tubes receiving and being acted on by the wet and atmospheric action, it has been deemed advisable to roof the top of the tubes; and for this purpose a complete ridge has been placed over both the tubes, having a walk down the centre, and the framework has been completely covered over with cloth impervious to the rain. Upwards of 7000 yards of this prepared cloth are required to accomplish the undertaking, which has been taken by contract. The large hotel which it has been determined to erect closely adjacent to the bridge will contain no fewer than 500 beds, and will be connected with the tubes by a covered walk, and surrounded with appropriate gardens and pleasure grounds. The works for the erection of this hotel are in full operation: large bodies of labourers are employed levelling the ground and forming the foundation, and no time will be lost in the completion of this adjunct to the Chester and Holyhead and Carnarvon lines.

THE FIRST IRON SHIP BUILT IN SUNDERLAND.—An iron ship, 100 tons burden, has just been begun for Mr. George Forster, of Consett, on the north side of the Wear, near the drops of the Monkwearmouth Colliery, by Mr. George Clarke, of Monkwearmouth, engineer, for carrying iron ore from Loftus in Yorkshire to Hartlepool. The whole of the iron work used in building the vessel is manufactured by the Derwent Company.—*Gateshead Observer.*

ROYAL GARDENS, VAUXHALL.—During the past week, the entertainments at the Royal Property have been visited by crowds of guests, both native and foreign; and a general satisfaction at the unique arrangements has been expressed by the visitors. The equestrian exercises comprise the names of Hernandez, Palmyre Annato, Pauline Cuzent, and Lejars; while the Temple of Concord, with its superb fireworks by Darby, continue to attract the attention of the numerous spectators—they being in every way worthy of the year, and far surpassing those we have been accustomed to see in former seasons. To-day being her Majesty's natal day, Mrs. Graham, the enterprising female aeronaut, will make her 65th ascent, and a variety of entertainments will be given in honour of the auspicious event. Next Thursday being the Ascot cup day, another *bal masque* will take place, which, judging from the success which has attended the two last, we anticipate will draw a crowded assemblage.

New Patents.

LIST OF PATENTS GRANTED DURING THE PAST WEEK.

G. Tate, of Bawtry, York, gentleman, for improvements in the construction of dwelling-houses and other buildings, including floating vessels, and for the adaptation and manufacture of materials for such uses.

B. Bailey, of Leicester, for improvements in the manufacture of looped fabrics.

A. V. Newton, of Chancery-lane, mechanical draughtsman, for improvements in the carbonisation of coal, and in the utilisation of the products disengaged during that operation, in improving the quality of the products intended for illuminating purposes, and in regulating of the same.

J. F. Empson, of Birmingham, for improvements in the manufacture of buttons.

J. Harrison, of Blackburn, Lancaster, for certain improvements in the manufacture of textile fabrics, and in the preparation of yarns or threads for weaving.

A grant of an extension unto J. Potter, of Manchester, Lancaster, cotton spinner, for the term of five years, from the 21st December, 1850, for his invention of certain improvements in spinning machinery.

W. C. Wilkins, Leng-acre, Middlesex, engineer, for improvements in railway buffers.

J. Reynold's, of Vere-street, Middlesex, card maker, for improvements in the manufacture of cards usually denomited playing cards.

J. Pegg, of Leicester, manufacturer, for improvements in producing corrugated surfaces and leather.

H. W. Adams, of Boston, Suffolk, Massachsetts, United States of America, for an improved means of generating galvanic electricity, of decomposing water or various electrolytes, of collecting hydrogen, of burning it, or atmospheric air, separately, or in combination.

R. W. Sievier, of Upper Holloway, Middlesex, civil engineer, for improvements in weaving and printing textile fabrics.

J. Ashworth, of Bristol, manager of the Great Western Cotton-Works, for certain improvements in the method of preventing and removing incrustation in steam-boilers and steam generators.

A. Slate, of Woodside Iron-Works, Worcester, for improvements in steam-engines and steam-boilers, and in the passages and valves for the induction, eduction, and working of fluids.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

B. Hick and Son, Bolton, combined steam generator, or steam-engine boiler.—A. Lamb and J. White, Southampton, life-boat.—W. Haigh, Huddersfield, cow milker.—Miller and Sons, Piccadilly, railway lamp.—J. Gray and Son, Edinburgh, radiating and reflecting shell stove.—F. W. Exall, Walworth Common; and J. S. Harraway, Newcross, Old Kent-road, spring handle cricket-bat.—G. Young, Glasgow, adjustible screw-key wrench, or spanner.—S. Jackson, Red Lion-street, illuminated candle clock.

PROVISIONAL REGISTRATIONS.

E. Stone, Wellington-place, Margate, portable revolving dust separator and stove-cleaners' companion.—J. Bevan, Lyndhurst-place, Deptford, shirt.—W. Riddle, East Temple Chambers, Whitefriars, corkscrew and wire-nippers; handle to lid of metal jug; shower-bath; apparatus for heating curling-irons by gas; suspensory hospital couch; looking-glass stand; reading easel, jar to be closed, sealed by mercury; also, can for the conveyance of milk by railway.—*Mechanics' Magazine.*

TO THE SHAREHOLDERS OF THE IMPERIAL BRAZILIAN MINING ASSOCIATION.

LADIES AND GENTLEMEN,—A VACANCY having occurred in the AUDITORSHIP of the IMPERIAL BRAZILIAN MINING ASSOCIATION, I beg leave to offer myself as a CANDIDATE to fill that office; and being a large shareholder, with considerable experience in mining matters, I respectfully solicit the favour of your SUPPORT on FRIDAY next, the 6th June, at the OFFICES, at Eleven o'clock precisely. 63

I am, Ladies and Gentlemen, your most obedient servant,
EDWARD J. COLE, Secretary to the Alten Mining Association.

Alten Mining Association Offices, 2, New Broad-street, May 28, 1851.

TO THE SHAREHOLDERS OF THE IMPERIAL BRAZILIAN MINING ASSOCIATION.

LADIES AND GENTLEMEN,—I take this opportunity of thanking you for the encouragement given to me during my CANVASS for the OFFICE of AUDITOR to your ASSOCIATION, and have further to request your ATTENDANCE at the OFFICE on FRIDAY next, the 6th June, at Eleven o'clock precisely, to RECORD your VOTES in my favour. 64

I have the honour to remain, your obedient servant,
12, Devonshire-square, May 28, 1851. SAM. BLAXLAND.

CEFN GWYN SILVER-LEAD MINE.—NOTICE.—It is

requested that the original £2 shareholders in this Mine will forthwith FORWARD their SCRIP CERTIFICATES to the Secretary, Mr. John Bowes, at the Company's offices, 51, Threadneedle-street, who will return them the new certificates now issuing in proportion of two £1 certificates for each original £2 certificate. 65

CEFN GWYN SILVER-LEAD MINE,—CARDIGAN, WALES.

—APPLICATIONS for SHARES in the ABOVE MINE to be made to Mr. T. Fuller, 51, Threadneedle-street; Mr. James Lane, 52, Threadneedle-street; Mr. Thos. Jordan, 75, Old Broad-street; H. Boxall and Co., No. 7, George-yard, Lombard-street; or to the Secretary, at the offices of the Company, No. 51, Threadneedle-street, where plans, prospectuses, and specimens of the ore now being raised from the mine may be seen, and every information obtained. 66

GREAT BRYN CONSOLS COPPER AND TIN MINE,

Situate in the parish of WITHEL, near BODMIN, CORNWALL.

Applications for the remaining shares to be made to the Committee of Management; W. M. Kearns, Esq., No. 3, Bloomsbury-place, Bloomsbury-square; or to Mr. Lelean, No. 5, Crosby-hall Chambers, Bishopsgate-street, London. 67

OKEL TOR SILVER-LEAD MINE.—The Promoters of this

Mine being desirous that it should be carried out in a legitimate and business-like manner, with the spirit of prudence and economy, have made ARRANGEMENTS with Mr. EVAN HOPKINS to FORWARD regular COPIES of the RECORDS of their PROCEEDINGS to his OFFICE, 13, Austinfriars, in order that this Gentleman may not only from periodical inspection, be able to judge of their progress, but be made acquainted also with their daily operations, for the satisfaction of distant capitalists who may consult him

There are 400 shares remaining for disposal, applications for which must be made either to JAMES CROFTS, Esq., of 4, King-street, Cheapside, London; or of Mr. J. JURY, the secretary, 3, Castle-terrace, Exeter. 68

ECONOMIC MINING ASSOCIATION.—

This ASSOCIATION has been ESTABLISHED SIX MONTHS—its objects being the PURCHASE of MINING SHARES for INVESTMENT of a PROFITABLE KIND: it has been very successful, having made considerable profits. A Dividend, at the rate of 20 per cent., will be declared every three months after this year. The contributions are 5s. per month per share: present price £2 10s. 69

For particulars apply to Mr. Divers, Great Bell-alley, Tokenhouse-yard; or to Mr. C. S. Richardson, 15, Old Broad-street, London.

TRENAULT LIME QUARRIES COMPANY,

6000 parts, or shares, of £1 1s. each.

CONDUCTED ON THE COST-BOOK PRINCIPLE, 70

Which exempts shareholders from any liability beyond the amount of their shares, and enables them to withdraw at any time by giving notice to that effect.

Prospectuses, containing the Rules and Regulations in full, Maps, and every information, may be obtained at the offices, 30, Bucklersbury. JAMES A. MAY, Purser.

THE MACCLESFIELD COPPER MINE,

IN THE PARISH OF BUCKFASTLEIGH, DEVONSHIRE.

Inspecting Engineer—Adam Murray, Jun., Esq.
Purser—Mr. C. Robins, Landreau, Ashburton. 71
Secretary—Mr. G. Bagley.

OFFICES,—5, GUILDHALL CHAMBERS, BASINGHALL-STREET.

Applications for the remaining shares to be made to the Secretary, at the offices of the Company, where plans and specimens of the ore from the lodes may be seen, and prospectuses obtained.

EXTRACT FROM CAPTAIN S. THOMAS'S REPORT.

May 10.—I have seldom seen a finer lode at the surface, and I should recommend your driving on its course at the adit level, as well as continuing the sinking of the engine-shaft to the 42 fathom level. It is my belief that this lode will be found rich in copper ore at the adit level and in depth: the clay-slate stratum in which it is embedded is similar to the rich mines of Cornwall. There is ample water-power, and a small capital only will be required, as all the machinery, smithy, account-house, &c., are erected. The sett is extensive, and being so near the granite range, with the cross-courses traversing the sett, and with other lodes of good promise, I consider this mine presents unusually fair prospects of success.

WHEAL ANNA CONSOLS TIN MINES,

ST. AUSTELL, CORNWALL.

ON THE COST-BOOK SYSTEM. 72

In certificates of 25 shares each: 6400 shares,—Deposit £1 per share.

These mines are about to be resumed, under the most flattering opinion of their success from Captain John Puckey, of Fowey Consols, and others. About 4000 of the shares are engaged to parties in Cornwall, of sound practical ability and experience in mining, and to other private applications.

Seven setts of stamps are working on stuff now at surface, left by the streamers, and of which there is sufficient to employ them probably for the next 50 years, at a profit equal to about 6 per cent. per annum on the deposit, independent of the extended returns from the underground operations.

A limited number of shares only remaining, early application is, therefore, necessary.

Prospectuses, with the report of Captain John Puckey (who will superintend the operations), may be had at the office; and also of Mr. T. C. Mundey, stockbroker, No. 75, Old Broad-street, to whom applications for shares can be made.

Winchester-house, Broad-street, May 29, 1851.

GREAT TREVEDDOE AND CABILLA TIN AND COPPER MINES.—In 1200 shares, of £6 10s. each—(payable as under-mentioned).

Managed by a Financial Committee of Shareholders in London, in strict accordance with the Cost-book Principle, and in conformity to the Stannary Laws.

No further call or responsibility, other than for the individual interest taken. 73

These mines comprise several very ancient short Tin Mines, with very large lodes. Tradition asserts them to have been more productive than any others of similar depth, but the barrier grounds between the several mines prevented their following the tin or working deep, as they had no outlet, nor any means of draining the mine water.

The right to the several mines having been obtained, the present deeper level has been brought in and driven through the intervening barriers, the water let down, and the old mines cleared up and connected, in doing which upwards of £7000 worth of tin has been sold. Very rich runs of tin are passing down from the present to the next level in the great lode. Iron rails have been laid home to the present stopes, and to the spalling doors, &c. There are three large water-wheels, and stamping-mills, with 40-heads, now working. The mines are in good ventilation and condition.

The lode now working is about 20 feet wide, with many rich runs of tin. A large lode to the south will fall into this great lode, about 30 fathoms under the present level; and this great lode will itself overtake a nearly downright lode a few fathoms to the north, when there is no reason to doubt a great accumulation of tin.

The mine drainage will now be very cheap, as there is ample water for unlimited stamping power and every other purpose, from a constant river, having nearly 200 feet fall, within the limits of this consolidation.

The geological features are in every way favourable, and of very large and lasting quantities of tin there can be no kind of question. From one of the copper lodes upwards of £1400 worth of ore has been sold, from only 27 fathoms on the lode, at less than 30 fms. from surface. From the old burrows, on another copper lode, upwards of 5 tons of very rich copper ore have been picked from the refuse of the former tinners, who were intent on the tin only, and took no notice of the copper.

The incoming shareholders will have the benefit of the expenditure of £7000 worth of tin raised, and of the outlay of £6000 in driving into and connecting the old mines, in effecting other useful works, and in machinery.

There is no wish to assert that these mines will be the most profitable in the county, but it is not too much to say, they have very great capabilities, with the certainty of permanent workings, and that the outlay of from £3000 to £5000 will be ample to place them in great produce.

They are divided into 1200 shares, 800 of them are offered to the public at £6 10s. per share, payable—£2 10s. now, £2 10s. on 24th October next, and £1 10s. on the 24th of January next, or the shares, and all previous payments, will be absolutely forfeited.

Of the £6 10s. per share, £1 10s. will be applied to the purchase of the share cost-free to the 1st of July next; and the £5 per share will be all applied to the working capital.

There is no probability that any further working capital will be required after the expenditure of the £5 per share on the 800 shares. In no event shall the purchasers of those shares, or the present shareholders, be liable for further call or contribution, but if necessary the shares shall be subdivided into 3000, and such portion of them as a vote of the shareholders shall determine shall be sold.

The certificates of the shares may be had upon payment of the £2 10s. per share, into the account of the "Great Treveddoe and Cabilla Tin and Copper Mines," at the bankers; or at the (pro tem.) offices of the Company, 70, King William-street, City, London.

TRAFALGAR LIFE ASSURANCE ASSOCIATION,

OFFICES,—No. 40, PALL-MALL, LONDON. 74

This association has been established for the purpose of providing annuities to the share and policy holders in the event of pecuniary misfortune, incapacity, or old age; which are not liable to forfeiture in cases of bankruptcy, insolvency, or failure of any description—and also securing education, apprenticeship fees, or endowments to their children.—Detailed prospectuses, containing the names and addresses of the shareholders, rates of premium, an explanation of the system now originated, together with useful information and statistics respecting life assurance, may be had on application to the offices. Combination policies, payable in the event of casualties of any kind totally disabling the assured, or death, are issued at moderate rates. This important addition to the principle of assurance deserves the serious attention of persons in all positions of life. Immediate and deferred annuities are granted. All policies indisputable, whereby the power on the part of the office in resisting a claim under any circumstance whatever, is removed. Loans are effected on personal and other securities in connexion with life assurance. —Parties desirous of becoming agents or medical referees are requested to communicate with the secretary. By order of the Board,
THOMAS H. BAYLIS, Resident Manager and Secretary.

GREAT WHEAL TONKIN COPPER, TIN, AND SILVER-LEAD MINING COMPANY,—CORNWALL.

ON THE COST-BOOK PRINCIPLE.

In 6000 shares, of £2 each.—Deposit £1.

The remainder to be paid in calls of 5s. a share, if required, on giving one month's notice.

TRUSTEES.

Sir ROBERT PRICE, Bart., M.P., Stratton-street, Piccadilly, and Foxley, Herefordshire.
ALEX. WRIGHT, Esq., J.P., Deputy Lord-Lieutenant, St. Catharine, Mid-Lothian.
AUGUSTUS NEWTON, Esq., Heathfield, Wandsworth.
(With power to add to their number.) 75

BANKERS—London Joint-Stock Bank; Western Branch, 69, Pall-mall.

SECRETARY—Mr. P. Scott, 50, Pall-mall, London.

This mine is situated at the south-west declivity of Kitt Hill and Heigneton Down, near Callington, in the celebrated rich metalliferous district of East Cornwall. Kitt Hill is surrounded by many productive mines of copper, tin, and silver-lead, and leases have been obtained of this valuable mineral property, from the Right Honourable Lord Ashburton and George Strode, Esq., at a moderate royalty.

The sett is very extensive, and contains numerous lodes in strata highly congenial for mineral deposits. Five of these lodes have been opened, and others have been worked in the adjoining mines. One lode is from 5 to 6 feet wide, of considerable value, producing rich black, grey, and yellow copper ore, at a depth of 4 fathoms only from the surface. A second lode, 6 feet wide, produces tin of excellent quality; three other lodes have appearances of the most flattering character, and all the workings have lately been inspected by several mining surveyors, whose practical knowledge is universally admitted, and abstracts of their reports are appended.

The parties from whom the property has been purchased will hold a large number of shares; and the prospects are so highly encouraging, that it is fully expected the deposit will be ample for every purpose, and leave no doubt but that handsome dividends will soon be realised.

Prospectuses and full particulars, with reports, may be had, and shares obtained, on application to the secretary, at the offices of the company, Vernon House, 50, Pall-mall, London, where specimens of the ore may be seen. P. SCOTT, Secretary.

REPORTS.

Down Gate, near Callington, May 3.—This mine is situated in the parish of Callington, Cornwall. The lodes are opened in a beautiful mineralised light blue clay-slate, at the southern declivity of that noted granite range, Kitt Hill. The locality needs no comment, being well known as a complete metalliferous field for mining. The sett is very extensive, being upwards of 600 fathoms on the line of the lodes, which are numerous, and five of which have been opened on to some extent, presenting most favourable indications for an abundance of mineral at deeper levels. The great copper lode has been opened, and a shaft sunk about 4 fms., and is from 5 to 6 feet wide, containing black, grey, and yellow copper throughout; on the footwall a part of the lode, 1 foot wide, is very rich, stones of solid copper have been broken of the richest quality, and I have every reason to believe that in no great depth the whole size of the lode will become a regular mass of the richest copper ore. The great south tin lode, six feet wide, running parallel with the above, produces stones of tin of superior quality on the back, yet I expect that copper will predominate as soon as the lode enters the light blue clay-slate, lying at the foot of the granite, which is now overlapped with about 10 or 12 fathoms of red soft killas, in which the lodes are found to produce tin. Two other lodes have been opened further north of a similar character; and a large flookan lode has been discovered, from 6 to 7 feet wide, south of the great copper lode, the horizontal bearing of which will intersect the copper lode about 100 fathoms east of the present shaft, which is very important. I can highly recommend this mine to any capatalist, being of such a favourable character as can be rarely met with, and I am of opinion that ere long Wheal Tonkin will become one of the rich leading mines in the district. JOHN SPARGO.

Callington, April 30.—This sett includes many large and promising lodes, both for tin and copper. One of these lodes is a large and fine copper lode, which I saw in the shaft, full 5 feet wide, producing large rocks of rich copper ore, from 15 to 18 cwts. in a fathom. There is also in this lode large quantities of rich-looking gossan. My opinion is, that if this lode was wrought to a depth of 20 fathoms, it would be found very rich in copper. There are many other valuable lodes in this piece of ground—one of which is full 8 feet wide. JOHN SEYMOUR.

Callington, May 5.—I beg to call your attention to the different lodes now discovered. The south lode is 4 feet wide, with good stones of tin; about 30 fathoms north of this lode is a splendid lode about 7 feet wide; further north about 10 fathoms is an extraordinary copper lode about 6 feet wide, one foot of which is good saving work, producing 15 cwts. of ore to the fathom, worth £15 per ton, in a beautiful congenial stratum of blue clay-slate. There are three other lodes north of the great copper lode, producing good stones of tin. A steam-engine will enable you to develope all the lodes in this valuable sett. L. RIPPON.

Several other reports of a highly satisfactory character have been received, all of which may be seen at the offices of the company; also specimens of copper ore from the mine.

GALLT-Y-MAEN SILVER-LEAD MINING COMPANY,

LORDSHIP OF MOWDDWY, COUNTY MERIONETH.

NOW IN WORK ON THE COST-BOOK PRINCIPLE.

In 12,000 shares, of £3 each.

Deposit £2 per share, to be paid upon transfer.—No further call to be made, unless with the consent of the shareholders in General Meeting assembled.

COMMITTEE OF MANAGEMENT. 76

A. A. DORIA, Esq., Lincoln's Inn.
WILLIAM WATSON JEFFREY, Esq., 4, New Broad-street.
JAMES T. KIRKWOOD, Esq., Woodland-terrace, Greenwich.
CHARLES MAPLESTONE, Esq., 27, Bucklersbury.
HENRY MOSS, Esq., 3, Church-court, Clement's-lane.
(With power to increase their number.)

Manager of the Mines.—Mr. Charles Samuel Richardson, 15, Old Broad-street.
Soticitor—Edward Maniere, Esq., 2, Scott's-yard, Bush-lane.
Bankers—Messrs. Martin, Stone, and Martins, Lombard-street.
Broker—John Guillemard, Esq., 3, Bartholomew-lane.
Purser—Austin Edwards, Esq., Brook-green, Hammersmith.

OFFICES,—3, SHERBORNE-LANE, LONDON.

The Gallt-y-Maen sett extends over about 224 acres of rich mineral land, and is situate in the lordship of Mowddwy, in the county of Merioneth; it is held under lease from the lord of the said manor, at a royalty of 1-14th, for a term of 21 years, and a sleeping rent of £100 per annum.

Gallt-y-Maen is in the vicinity of the celebrated Great Cowarch Silver-Lead Mine, which is producing large quantities of ore, yielding 70 to 80 per cent. of lead, in addition to a considerable quantity of silver.

Prospectuses and all other information to be had upon application at the Offices of the Company; or to John Guillemard, Esq., Stock Broker, 3, Bartholomew-lane.

Offices, 3, Sherborne-lane, City.

TREVOOL COPPER AND TIN MINE,—CROWAN, CAMBORNE, CORNWALL.—In 256 shares.

CONDUCTED ON THE COST-BOOK SYSTEM. 77

A Finance Committee of three will be chosen at the first General Meeting of the adventurers, which will be held in the beginning of June.

This mine includes old Trevool Mine, together with parts of Boteto, Hallegan, and Halgarrack, situate in the parish of Crowan. The sett is held for 21 years, at 1-20th dues, from Sir R. R. Vyvyan, Bart., and the Rev. H. Molesworth Saint Aubyn: is about three-quarters of a mile in length upon the course of the lodes, and about half a mile in width. Five very promising lodes, varying in width from 7 to 2½ feet, have been already discovered within its limits. The situation of the ground is unexceptionable, being directly west of the well-known productive mines of Condurrow, South Wheal Frances, North Basset, &c., and embracing the lodes of these mines, and is close upon the junction of the great granite range with clay-slate; a large elvan course also runs parallel with the lodes—a fact of itself considered of first-rate importance in mining speculations.

In the years 1827 and 1828 one of the lodes referred to was wrought, but to a very limited extent, as, from the inadequate means then provided for draining the water, the concern was soon abandoned. In the short space of time above alluded to, this single lode produced upwards of £6000 worth of copper and tin, or about £300 per month.

It is now proposed to resume the mine and to effectually work the several lodes, by the immediate erection of a 60-inch cylinder steam-engine on the old engine-shaft, already sunk 78 fathoms below the adit, which is 18 fathoms below the surface. The estimated expense of which, and to clear and open the mine to bottom, and also to make the necessary surface buildings and erections, is about £3000; but it is confidently anticipated, from the very promising character of the lodes, that considerable returns will be made towards the required expenditure, and that, therefore, calls to that extent will not be required from the proprietary.

About £500 have already been expended in sinking shafts, driving cross-cuts, &c., by the present shareholders; and as it is intended to divide the undertaking into 1024 shares—a majority of which is taken up—10s. per share (1024) would be required to be paid down upon the appropriation of such shares to cover the outlay to the present time, and a further sum of 10s. per share to form a fund for the prosecution of the mine; further calls to be determined upon and made by a majority of the votes of the shareholders, either by themselves or proxies, at meetings to be convened for that purpose.

The promoters trust that these statements will be fully borne out by the following reports and testimonials of experienced mine agents, of high character and acknowledged integrity and ability, and that the legitimacy of its object will ensure for it the support of a further respectable part of the mining community.

A majority of the shares are in the hands of some of the most influential gentlemen in the county.

REPORTS.

From Capt. CHARLES THOMAS, Manager of Dolcoath and West Wheal Frances Mines.

In answer to yours respecting my opinion of Trevool Mine, I beg to say, that from the knowledge I have of the western part (obtained from my having been an agent there during the latter part of the last working), and from the reports of miners and others, of the state of the eastern and deepest part of the mine, I have no hesitation in saying that I think the sett is well worthy the attention of capitalists. My favourable opinion of the mine is founded upon the number and width of the lodes contained within the limits thereof, and the quantity of copper and tin already raised from the lodes which have been partially explored, together with the favourable circumstances of the mine being in killas, with an elvan-course in close connection with lodes lying immediately north of a granite range. CHARLES THOMAS.

Mr. John Jeffery, Camborne.

From Capt. MARK REED, late Manager of Wheal Vor, and now of the Lewis Mines.

The adit level is extended west of the engine-shaft about 70 fathoms; the lode in the end is about 3 feet wide, consisting of mundic, jack, apar, and fluor, with tin and copper. This mine was worked by the old adventurers to the 70 fm. level, and returned a great quantity of copper and tin ore. From the appearance of the lode in the adit, which is a large strong lode, with cross lodes and elvans, as well as the side lodes, there being likewise a large stream of water running through the eastern part of the sett, which, if applied to a wheel to roll and stamp the stuff, would be of great value, I would recommend an engine to be erected on the eastern part of the mine, and if worked by a spirited party, and managed by an experienced miner, it is my opinion that she will make a good and lasting mine. MARK REED.

To Mr. John Jeffery.

Applications for shares to be made, on or before the 1st of June next, to Mr. H. B. Rye, 77, Old Broad-street, London; Mr. Stephen Michell, Lemon-street, Truro, Cornwall, mine brokers; or to Mr. John Jeffery, the purser, Basset Villa, Camborne,—from whom all further information can be obtained.—Camborne, May 3, 1851.

STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular

MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 20th of every month; and from Suez on or about the 10th of the month. 78

BOMBAY.—Passengers for Bombay can proceed by this company's steamers of the 20th of the month, to Malta, thence to Alexandria by her Majesty's steamers, and from Suez by the Honourable East India Company's steamers.

MEDITERRANEAN.—MALTA—On the 20th and 29th of every month. CONSTANTINOPLE—On the 29th of the month. ALEXANDRIA—On the 20th of the month.

SPAIN AND PORTUGAL.—Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, on the 7th 17th, and 27th of the month.

For plans of the vessels, rates of passage-money, and to secure passages and ship cargo, apply at the company's offices, No. 122, Leadenhall-street, London; and Oriental-place, Southampton.

GENERAL PEAT-WORKING COMPANY,—

STONES'S PATENT.

NOTICE TO PROPRIETORS AND HOLDERS OF PEAT-FIELDS IN THE UNITED KINGDOM AND ELSEWHERE.

A PRIVATE COMPANY is about to BE FORMED in LONDON for MANUFACTURING MANURE and VARIOUS USEFUL, and really remunerating, PRODUCTS (not candles), obtained from TURF and PEAT, of the various sorts, under License of Patents, taken out by Mr. W. B. Stones, in England, Ireland, and Scotland, &c., in 1850, and again in England in April, 1851; and the HOLDERS of well-situated PEAT-FIELDS will be TREATED with for PURCHASE or RENTING of SUCH.—Details to be furnished to Mr. W. B. Stones, 6, John-street, Adelphi, London. 79

The object of the "General Peat-Working Company" will be principally the manufacture of manure of a superior quality to anything of the sort that has as yet been brought into the market, and at one-half the price. No night soil, or any other filthy matter is mixed with the organic substance of which this manure is chiefly composed. Manures of various sorts will be made for different plants, soils, and climates of the United Kingdom and the Colonies.

A collection of products obtained from peats by the processes patented by Mr. Stones, is to be seen at the Great Exhibition, Class No. I., "English Mineral," and at the office above-mentioned.

BIRAM'S PATENT ANEMOMETER, FOR MEASURING THE CURRENT OF AIR IN MINES, &c.

This INSTRUMENT is CONSTRUCTED so that the ACTION of a CURRENT of AIR on EVERY PART of the VANES may tend to PRODUCE a REVOLUTION of the WHEEL in the same time—the number of feet lineal which have passed through the wheel being shown by indices which revolve on the dial-plate underneath the handle. 80

Further particulars, with references, may be had on application to the patentee.

BIRAM'S MINER'S LAMP,

COMBINING LIGHT, SAFETY, AND ECONOMY.

The PATENTEE respectfully solicits the attention and patronage of COAL PROPRIETORS to the above LAMP—the LIGHT from which will be found FOURFOLD that of the Davy Lamp—the SAFETY SUPERIOR, and the COST IN OIL not ONE-HALF the expense of candles, even when burning free from draft; whilst, from the light being shielded from the wind, a current of air, inadmissable where naked candles are used, may be passed through the galleries of a mine without inconvenience.

Wentworth, near Rotherham. BEN. BIRAM

IMPROVED LIFTING JACKS,

MANUFACTURED BY

W. AND J. GALLOWAY,

PATENT RIVET WORKS,

MANCHESTER.

IMPROVED RATCHET JACK. HALEY'S PATENT LIFTING JACK.

The attention of parties who employ

Lifting Jacks,

is respectfully requested to the superiority of those annexed, over those hitherto in use. 81

IMPORTANT SAVING IN MINING OPERATIONS.

GUTTA PERCHA HOGAR PIPES, AND SPEAKING TUBES IN MINES.

The GUTTA PERCHA COMPANY have been favoured with the following important Letter from EBENEZER ROGERS, Esq., C.E., F.G.S., Abercarn Fach, near Newport, Monmouthshire:—

March 21.—In reply to your inquiry as to the use of gutta percha as a material for the Hogar pipe used for taking up water in sinking shafts for mines, I have pleasure in stating that my application of it for this purpose is perfectly successful. 82

The ordinary slide pipe is entirely superseded by the gutta percha Hogar pipe, and it will be evident to every person experienced in mining, that the flexibility and lightness of the latter admits of sumping in any part of the pit, without the great amount of labour attendant on that operation with iron pipes.

The freedom from liability to accidents in blasting, and the great facility with which repairs can be effected in case of damage, cannot fail to recommend your material to the notice of every person engaged in mining operations.

The gutta percha Hogar pipe, which we have now in work at the Abercarn Collieries, is about 20 feet in length, and after very severe trials in sinking through hard rocks, where the expensive slide and stock would be always liable to breakage, the gutta percha is little worse for wear. I am also glad to state that the 400 feet of speaking tube for communicating between the top and bottom of the shaft answers admirably, and is a great economist of time. EBENEZER ROGERS.

GUTTA PERCHA PUMP BUCKETS.

COPY OF LETTER FROM MR. C. THOMAS, DOLCOATH MINE, CAMBORNE.

Camborne, Jan. 27.—Three gutta percha 12-inch pit boxes, or pump buckets, drawing water 7½-feet stroke, have been used and worn out in this mine, and I beg to inform you that they have lasted on an average six weeks each, giving double the average wear of leather boxes, or buckets. This alone is important in saving time and cost of changing boxes, especially in long lifts, and gutta percha requiring no nails for gearing, the working pieces will doubtless last much longer. On the whole, we much prefer gutta percha to leather for boxes. CHARLES THOMAS.

SYPHONS FOR MINES,

FROM MR. A. CROSFIELD, TY MAUR COLLIERY, NEAR PONTY-PRIDD.

The gutta percha pipe sent me for the purpose of employing it as a syphon for drawing water from a damp heading at these works, answers admirably; and, although the pipe is so small, it is surprising the quantity of water passing through it. I consider that gutta percha piping may be applied in mines and collieries to very valuable purposes, and is especially adapted to be used on the syphon principle, where local circumstances will admit of such application.

MINERS' CAPS.

Cornish Miner's Cap. Northumberland Miner's Cap.

The GUTTA PERCHA CAPS are not only Waterproof, but afford peculiar protection to the wearer from the Falling of Loose Stones, &c. &c. &c.

EVERY VARIETY OF GUTTA PERCHA ARTICLES SUITABLE FOR MINES—viz. Hogar Pipes, Pump Buckets, Clacks, Speaking Tubes, Engine Packings, Syphons, Miners' Caps, Waterproof Soles, &c.,

MANUFACTURED BY THE GUTTA PERCHA COMPANY, PATENTEES, *No.* 18, *WHARF-ROAD, CITY-ROAD, LONDON.*

*** Specimens may be seen on application to the Company's dealers.

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES AND CLOCKS.

E. J. DENT, 82, Strand; 33, Cockspur-street; 34, Royal Exchange (clock tower area), Watch and Clock Maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each. 83

DENT'S PATENT DIPLIEDOSCOPE,

or Meridian Instrument, is now ready for delivery.—Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

THE LATE DISASTROUS ACCIDENT ON THE LANCASHIRE AND CHESHIRE JUNCTION RAILWAY.—This ACCIDENT (in which

five persons were killed and many others injured) may show the propriety of effecting AN INSURANCE WITH THE

RALWAY PASSENGERS' ASSURANCE COMPANY, 84

which is established for the purpose of affording COMPENSATION in cases of personal INJURY, and the PAYMENT of a CERTAIN SUM in the event of DEATH, by RAILWAY ACCIDENT.

The Company is empowered by special Act of Parliament (12 and 13 Vic., cap. 40), and has a capital of ONE MILLION as a guarantee to the assured.

Prospectuses, giving the rates of premium, and also particulars of the numerous cases, fatal and otherwise, already relieved, may be obtained at the offices, 3, Old Broad-street, London. ALEXANDER BEATTIE, Secretary.

Mining Exchange Official Share List.

TO THE EDITOR OF THE MINING JOURNAL.

Mining Exchange, London, May 30.

SIR,—This week's Official List, enclosed, has been carefully revised by the Committee upon the best possible information at their command. Will you kindly allow me to notice the attacks upon "The Mining Exchange," made, it seems, generally, in an unfair spirit of criticism, and somewhat of vulgar abuse? It is charged, that through dread of "the Stock Exchange" this Mining Mart was formed—I deny it entirely; it was by previous arrangement, long contemplated, that several mining agents and dealers met on the 7th April, and invited others to meet here and co-operate with them, and which invitation was immediately responded to by above 30 of the present body—all of whom find ample room and accommodation, and to spare, in what is falsely asserted to be a "three-pair back" by some would-be magnate of "A Looker-On," who, perhaps from his sky-parlour, condescends to cavil, sneer at, and despise our "day of small things;" but who, perhaps, is only venting spleen in consequence of his application for membership being among "the rejected addresses."

It is asserted, most unfoundedly, that the Committee are a self-elected conclave—something of an inquisition—purposely withholding their names. They were provisionally duly proposed, seconded, and elected; and none of their rules—which have, of course, been subscribed to by all the members, and which were published in the *Mining Journal* of the 12th April and the *Daily News*—have been pointed out as objectionable. So much, then, for those who, from the lack of some useful pursuit, allow their ill-regulated minds to conceive that our organisation is an attempt without cognizance.

The committee are well-known men of business to all who have chosen properly to inform themselves about them; and I believe that they individually labour honestly in their honorary vocation. What they have done has been maturing from our starting, and not, as some vainly imagine it, in consequence of anything said or written about them. Let those, whether subscribers or non-subscribers, friends or foes, who are dissatisfied with us—"the Mining Exchange" as at present constituted—make themselves understood, and not beat about the bush with "sound and fury, signifying nothing;" and I feel confident that the Committee will take the initiative in needed reformation; and as I have been insidiously referred to, I reply that "the honorary secretary's name itself" *is* "a sufficient guarantee" that they intend what is right towards all parties, although he has not the effrontery to inquire if "they are sufficiently strong in moral and intellectual standing" to satisfy "A Looker-On." JAMES STRIDE, Secretary.

LONDON, FRIDAY EVENING.—May 30, 1851.

Shares.		Paid.	Last Price.	Present Price.
5120	Alfred Consols (copper), Phillack	3	16½ 17	....
1248	Allt-y-Crib (silver-lead), Talybont	5	7½	10
1024	Appledore (silver-lead and cop.) St. Ives	2	3	....
1624	Balleswidden (tin), St. Just	11½	10½	....
940	Balnoon Consols (tin), Uny Lelant	—	4½ 5	3½ 4
5000	Bargally (lead), Cairnsmore	—	1	....
3650	Bawden (silver-lead) St. Teath	¾	½	....
4000	Bedford United (copper), Tavistock	2¾	7½	7 7½
256	Berriow (copper), Liskeard	2½	3 3½	....
32	Black Burn, Alston, Cumberland	15	100	....
5000	Black Craig (lead), Kirkcudbrightshire	5	5	
8000	Blaenavon (iron), South Wales	50	12½	
1024	Bodmin Consols (lead), Wadebridge	5	5	4½
1024	Bodmin Wheal Mary (copper), Bodmin	7	10	8½ 9
240	Boscean (tin), St. Just	12½	12½ 13	....
100	Botallack (tin and copper), St. Just	182½	207	....
256	Brewer (copper), Gwennap	2	6½	....
256	Bridford Consols	1	1	1
10000	British Iron, New, regis. (iron)	12	8	....
—	Ditto ditto, scrip	10	10	....
2000	Bronfloyd (lead)	1	1½	....
2400	Bryn-Arian (lead), Cardiganshire	2	2	....
1000	Bryntail, Llanidloes, Montgomeryshire	2½	17	17½ 18
107	Budnick Consols (tin), Perranzabuloe	52½	9	....
812	Butterdon (lead), Menheniott	3½	5½	5½ 6
2000	Bwlch Consols (silver-lead), Cardiganshire	4	4 4½	....
1000	Callington (lead and copper), Callington	28	6½ 7	....
1000	Camborne Consols (copper), Camborne	7	4 5	....
1536	Caradon Vale (copper and lead), St. Ive	2¾	1¾	
1000	Carbona (tin and copper), Crowan	5	5	
1000	Carn Brea (copper and tin), Illogan	15	110	100 105
1056	Carvannall (copper), Gwennap	3	5	
200	Cefn Bruno (lead), Cardiganshire	6	50	
256	Chyprase, St. Enoder, Cornwall	5½	11½	
1024	Clijah and Wentworth (tin & co.), Redruth	1	5	
128	Comfort (copper), Gwennap	65	50	
256	Condurrow (copper and tin), Camborne	20	95 105	100 105
2510	Cook's Kitchen (copper and tin), Illogan	15½	4½	4½ 5
1000	Copper Bottom (copper), Crowan	7	7½	
900	Court Grange (silver-lead), Cardiganshire	10	12	
211	Craddock Moor (copper), St. Cleer	29	7	8½
256	Crane and Bejawsa (copper), Camborne	20	31	30
1000	Cwm Erfin (lead), Cardiganshire	6	3½	3½ 4
128	Cwmystwith (lead), Cardiganshire	60	100	....
1000	Daren (silver-lead), Cardiganshire	2	7	8
7100	Derwent (silver-lead), Durham	10	3	....
5000	Devon Consols North (copper)	2½	4	....
4160	Devon and Courtenay Consols (copper)	1½	1½ ½	....
1024	Devon Great Consols (copper), Tavistock	1	310	300
672	Ding-Dong (tin), Gulval	5	7 8	....
180	Dolcoath (copper and tin), Camborne	252	17	15
2560	Drake Walls (tin and copper), Calstock	6½	4½	5
3000	Dyfngwm (lead)	10	11½ 12	....
256	East Basset (copper) Redruth	10	18½	17½ 18
1024	East Buller (copper), near Redruth	3	6½	4½ 5
2048	East Crowndale (tin), Tavistock	7½	3	....
150	East Daren (lead), Cardiganshire	17	58 59	....
256	East Godolphin (copper), Crowan	17½	21	....
4000	East Gunnis Lake Junction (copper)	½	2	....
128	East Pool (tin and copper), Pool, Illogan	24½	147½	150
256	East Seton and Wheal Maude, Redruth	4	2½	....
9000	East Tamar Consols (silver-lead)	1½	18*s*	17*s* 6*d* 18*s* 6*d*
256	East Tolgus (copper), Redruth	4	12½	13 14
256	East Tywarnhayle (copper), St. Agnes	11	11	....
94	East Wheal Crofty (copper), Illogan	125	150 160	120
256	East Wheal Frances (copper), Illogan	4½	4	....
2048	East Wheal George (cop.), Walkhampton	1	10	11 12
512	East Wheal Leisure (copper)	8	15 15½	17 18
1000	East Wheal Reeth	¾	1½	....
128	East Wheal Rose (silver-lead), Newlyn	50	550	....
4000	East Wheal Russell	8*s* 6*d*	4¾	....
1280	Esgair Llee Llanfihangel-y-Croythin	4½	5½	5½ 6
494	Fowey Consols (copper), Tywardreath	40	30	....
5000	Garreg (lead), Flint	—	1¾ 1½	....
100	Goginan (lead), Cardiganshire	5	200	....
256	Gonamena (copper), St. Cleer	46	15	12
243	Grambler and St. Aubyn (copper)	80	43 46	34 35
96	Great Consols (copper), Gwennap	1000	250	200
2000	Great Cowarch (silver-lead), Merioneth	2	5 5½	5½ 5¾
11000	Great Polgooth (tin), St. Austell	2	2¾ 3½	2¾
1024	Great Wheal Alfred, St. Erth and Phillack	4	3½	4 4½
512	Great Wheal Baddern (tin and silver-lead)	20	85	....
512	Great Wheal Rough Tor Consols (copper)	29	20	20
119	Great Work (tin), Germoe	100	200	....
1026	Gustavus Mines (copper), Camborne	6½	6 6½	6
512	Hawke's Point (copper), Uny Lelant	7	3½	3½ 4
1024	Hawkmoor (cop.), Calstock, Gunnis Lake	7½	6	....
6000	Heignston Down Con. (copper), Calstock	2½	1½ 2	....
32	Helvellin Mining Company, Westmoreland	15	25	....
1024	Herodsfoot (lead), near Liskeard	8	8	7½
10000	Hibernian (copper) Ireland	12½	1¾	....
1000	Holmbush (lead and copper), Callington	24	21 22	20
1900	Keswick (lead), Portinscale, near Keswick	11	2 3	....
1024	Kingsett and Bedford (lead and copper)	3¾	2½	....
786	Kirkcudbrightshire (lead), Kirkcud.	9¾	4	....
1742	Lamherooe Wheal Maria (copper & tin)	12	16 15	10 11
252	Lanarth Consols (copper), Gwennap	4	5½	....
256	Lelant Consols (tin), Uny Lelant	57	22	....
160	Levant (copper and tin), St. Just	—	150	160
1000	Lewis (tin and copper), St. Erth	17	20¾	20
100	Lisburne (lead), Cardiganshire	75	700	....
1000	Llwynmalees (lead), Cardiganshire	10	9	....
3600	Llynvi Iron (iron)	50	50	....
5000	Low's Patent Copper Company	7	10	....
6000	Marke Valley (copper), Caradon	10	3½	....
5000	Mendip Hills (lead), near Bristol	3¾	2½ 2¾	2½
5000	Merllyn (lead), Flint	2½	4	....
1024	Mill Pool (tin and copper), St. Hilary	1	2	....
256	Mineral Court (tin), near St. Austell	25½	30	....
20000	Mining Co. of Ireland (copper, &c.)	7	5	5½
2000	Molland	1	1½	1 1½
1024	Montgomery (lead and copper)	7½	12	11
160	Morvah Consols (tin and copper)	2	3	....
320	Nangiles (tin and copper), Camborne	3	3½ 4	....
200	Nanteos (lead), Cardiganshire	34	30	....
2000	Nant-y-Car (copper), near Rhayader	2	½	½ ¾
2048	New East Crowndale (copper and tin)	1½	¾	....
1024	North Buller (copper), Redruth	5	13	....
256	North Fowey Consols	—	25	....
256	North Trefusis (tin and copper), Redruth	1	1	....
6000	North Wheal Basset (copper and tin)	2	12½	13
1000	North Wh. Buller, or Gt. South Tolgus	5	14	....
100	North Pool (copper and tin), Pool	45	500	....
140	North Roskear (copper), Camborne	10	160	155
256	North Tolgus (copper), Redruth	9	18	16
262	North Wheal Leisure, Perranzabuloe	1½	1½	....
256	Old Wheal Basset (copper), Redruth	1	2¾	....
128	Par Consols (copper), St. Blazey	55¾	650	....
1026	Pendarves Consols (copper), Camborne	3½	6	....
1000	Pendarves and St. Aubyn (tin and copper)	5	11	....
406	Penhauger	1	3	3
4924	Pennant and Craigwen (lead)	3	3	3½
1000	Penrait	1	4½ 5	3 3½
2048	Pentire Glaze (silver-lead), St. Minver	5½	5½ 7	....
1000	Pen-y-bank and Ergiodd (lead)	4	6½	....
1024	Penzance Consols (tin), Sancreed	2¾	1¾	1½ 2
1160	Perran St. George (copper and tin)	21½	45	40
1960	Peter Tavy and Mary Tavy (copper)	3½	15 20	....
200	Phœnix (copper and tin), Linkinghorne	—	240	....
1000	Polberro (tin), St. Agnes	15	15	....
560	Providence Mines (tin), Uny Lelant	20½	25	....
2560	Rhoswydol and Bacheiddon (lead)	10½	6	....
10000	Rhymney Iron (iron), Rhymney	50	12	....
10000	Ditto New	7	3	....
5000	Rocks and Treverbyn (tin), St. Austell	4½	4½	....
2048	Runnaford Coombe (tin)	3	3½ 4	....
2000	South of Scotland	1½	¾	1
256	South Caradon (copper), St. Cleer	30	120 125	130 135
256	South Friendship Wh. Ann (copper & tin)	30	28 30	....
9000	South Tamar (silver-lead), Beer Ferris	1	1¾ 2	....
256	South Tolgus (copper), Redruth	16	165	160 165
256	South Trelawny (lead), near Liskeard	33½	3½	4½ 5
2000	South Wales Mining Company (lead)	1¾	2½	....
256	South Wheal Basset (copper), Illogan	10½	373	360 365
248	South Wheal Frances (copper), Illogan	80	290 280½	280 285
256	South Wheal Josiah (copper), Calstock	2	2½	....
1024	Spearne Consols (tin), St. Just	1½	12½	9 10
280	Spearne Moor (copper), St. Just	30	40	....
1024	St. Aubyn and Grylls (copper and tin)	2½	4	5 5½
94	St. Ives Consols (tin), St. Ive's	80	80	....
1000	Stray Park and Camborne Vean (copper)	15	14 14½	14½ 15
9600	Tamar Consols (silver-lead), Beeralston	4	4	4½
687	Tavy Consols (copper), near Tavistock	8½	2½	1½
6000	Tincroft (copper and tin), near Pool	7	5½ ½	5 5½
128	Tokenbury (copper), St. Ive, Liskeard	8½	7 7	12
1200	Tolcarne (tin and copper), Camborne	2½	3	....
1024	Trannack and Bosence, St. Erth	1	8	....
1024	Trebarvah, Perranuthnoe	1	5	....
600	Tregardock (lead), St. Teath	1	5	....
1120	Tregorden (silver-lead) Wadebridge	2½	6	5½
256	Trehane (silver-lead), Menheniot	1¼	14 12	14
5000	Treleigh Consols (copper), Redruth	6	2½	2½ 2¾ 3
1000	Treloweth, St. Erth	4½	7	6 7
600	Trelyon Consols (tin), St. Ive's	4	6	5 6
2000	Trenance (copper), Helston	6	5	....
96	Tresavean (copper), Gwennap	20	225	220
120	Trethellan (copper), Gwennap	5	18	14 15
512	Trethevy (copper), St. Cleer	8¾	5½	....
120	Treviskey and Barrier (copper)	130	200	190 200
512	Treville (lead), Lewanick	2¾	9	....
604	Trowan Consols (tin), Towedneck	7	10	....
100	Trumpet Consols (tin), near Helston	95	95	100 105
500	Tywarnhayle (cop.), Illogan & St. Agnes	60	31½	....
512	Tywarndreath (copper), St. Blazey	2	10	....
200	United Mines (copper), Gwennap	300	100	80 90
5000	Warleggan Consols (copper)	¾	¾	....
1024	Wellington (copper & tin), Perranuthnoe	6½	9	8 8½
1024	West Alfred Consols	7¾	19½ 20½	20
5000	West Basset (copper), Illogan	¾	5	7
128	West Buller (copper), Redruth	10	1050	....
256	West Caradon (copper), Liskeard	20	117½	105 107½
256	West Damsel (copper), Gwennap	5½	53	....
1024	West Ding-Dong (tin)	½	3½	....
512	West Fowey Con. (tin & cop.), St. Blazey	40	60	
2048	West Goginan (silver-lead), Cardiganshire	1¾	3	....
1024	West Par Consols (copper), St. Blazey	10	11	....
1024	West Phœnix, Linkinghorne	4	4	
12500	West Polgooth (tin), St. Ewe & St. Mewan	1	1½ ¾	1
512	West Providence (tin), St. Erth	10	83 85	85
200	West Seton (copper), Camborne	67	123	115 120
256	West Sharp Tor (copper) Linkinghorne	22	49	....
940	West Tolgus (copper), Illogan	13½	4	5 5½
120	West Trethellan (copper), Gwennap	15	20	....
5000	West Wheal Alfred	1	1½ 1¾	1½
512	West Wheal Frances (copper), Illogan	7	19	19 20
1024	West Wheal Friendship (copper)	3	3	....
3725	West Wheal Jewel (tin and copper)	12	½	1½ 1¾
4000	West Wheal Russell	¼	1¼	....
500	West Wheal Towan (copper), Illogan	15	13	14 15
1024	West Wheal Treasury (copper), Gwinear	8	6½	4
1070	Wheal Adams (lead), Christow, Exeter	13¾	16	....
1000	Wheal Agar (copper), Illogan	6	5½ 5¾	....
300	Wheal Arthur (lead), near East Wh. Rose	17	49	....
1228	Wheal Arthur (silver-lead & cop.), Calstock	1½	6	....
240	Wheal Bal (tin), St. Just	5	16 17	....
256	Wheal Carpenter (tin), Gwinear	1½	5	6 7
1024	Wh. Carpenter (lead & cop.) S. Sydenham	2	3	....
124	Wh. Castle and Boswedden (tin & copper)	5	20	....
1024	Wheal Chiverton (copper)	1	1 1½	....
1024	Wheal Crebor (copper), Tavistock	2½	6½	5½
1024	Wheal Cubit (copper), Gwennap	1	2½	5
182	Wheal Elizabeth (copper), Redruth	19	8	....
182	Wheal Ennis (lead), St. Erme	12	20	....
1024	Wheal Fortescue (copper), Tavistock	5	1½	....
126	Wheal Friendship (copper)	120	120	....
764	Wheal Franco (copper), near Tavistock	14½	8 8½	....
4000	Wheal Golden (lead), Peranzabuloe	2	7	....
2560	Wheal Harriet (copper), Camborne	1	½	1
216	Wheal Henry (copper), Kea, near Truro	25	8	....
2000	Wheal Langmaid (lead)	½	1½ 1	....
1000	Wheal Lemon, Germoe	13*s*	1	....
430	Wheal Lovel (lead and tin), Helston	—	—	20
112	Wheal Margaret (tin), Uny Lelant	79	165	140
512	Wheal Mary Ann (lead), Menheniot	5½	64½ 65½	62
990	Wheal Mary (copper), Redruth	16	7½	....
1024	Wheal May (silver-lead and copper)	2	2½	....
1024	Wheal Neptune (copper), Perranuthnoe	2	3	....
40	Wheal Owles, St. Just	200	235	....
128	Wheal Plenty (copper), Redruth	19	38 39	....
5000	Wheal Providence, South Sydenham	½	2½ 4	3
256	Wheal Prudence (copper), St. Agnes	2¾	5	....
240	Wheal Reeth (tin), Uny Lelant	20½	95	90
2048	Wheal Robins	½	1½	....
4000	Wheal Russell (copper), Tavistock	1½	1½	....
198	Wheal Seton (tin and copper), Camborne	107	190	200
1024	Wheal Speedwell (copper and tin)	2	1 1½	....
1024	Wheal Squire (copper), St. Erth	1½	1¾	....
1024	Wheal Stanagwyn (copper), St. Stephen's	1	10	10
1000	Wheal Susan, Breage and Crowan	1½	2	....
1024	Wheal Sydney, Plympton	1½	4	....
512	Wheal Trefusis (copper), Gwennap	7½	17	17 18
520	Wheal Trelawny (silver-lead), Liskeard	3¾	51 50	52
1024	Wheal Trelusback (copper), Stythians	5	5	....
1024	Wheal Tremayne (tin and cop.), Gwinear	9¾	22½ 23½	21½ 22½
267	Wheal Tryphena (tin and copper)	40	18½	....
126	Wheal Union (copper), Redruth	40	45 50	40
1024	Wheal Uny (tin and copper)	2	5 5½	....
1024	Wheal Venton (silver-lead), Liskeard	3¾	7½	6½
1000	Wheal Vincent (tin), Alternum	7½	6½	....
5200	Wicklow (copper), Wicklow	5	20½	....

Shares.	FOREIGN MINES.	Paid.	Present Price.
5000	Alten Mining Company (copper), Norway	14½	3
19000	Australian (copper), South Australia	4	¾ ½
10000	Brazilian Imperial (gold), Brazil	23	4½ 5 4¾
12000	Cobre Copper Company (copper), Cuba	40	38 ½
10000	Copiapo Mining Company (copper), Chili	14	7 7½
20000	General Mining Association (iron & coal), Nova Scotia	20	14
3250	Kinzigthal Mining Association (silver), Germany	2½	....
5000	Linares (lead), Spain	3	2½ 2¾
500	Ditto Preference	3	3 3½
4500	Ditto Additional	1	1½
5051	Mexican Company (silver), Mexico	59½	....
20000	Mexican and South American (copper), Mexico	4½	4
5000	National Brazilian (gold), Brazil	30	2
104000	North British Australasian (copper), S. A. & New Zea.	1	½
7000	Royal Santiago (copper), Cuba	10	7½ 7¾
11000	St. John del Rey (gold), Brazil	15	17 17½ 17¾
43174	United Mexican (silver), Mexico Av.	28½	3½ 3¾ 3½
10000	Worthing (copper), Adelaide, South Australia	3	2½ 3 3½

The particulars of the following mines, though not included in the Official Share List, have been furnished by known correspondents, on whose authority they are published:—

Shares.		Paid.	Last Price.	Present Price.
905	Barristown (lead), Carrick	5¾	5	....
1500	Bishopstone (silver-lead), Glamorganshire	2¾	10	....
5000	Bodmin Moor Consols (tin and copper)	1	4	....
6000	Bolenowe	2½	4½	....
40	Bolowall and Nanpean (tin), St. Just	—	20	....
1024	Boringdon Park (silver-lead), Plympton	1	5 5½	....
600	Bosorn (tin), St. Just	5	¾	....
1024	Bottle Hill (copper) Plympton	1	1 1½	....
1000	Cae-Gynon (silver-lead), Cardiganshire	¼	4¾	....
4000	Calstock United (copper)	5	6	....
3000	Cally (copper and lead), Kirkcudbrightsh.	1	1½	....
20000	Cameron's Steam Coal (coal), Swansea	10	2 2½	....
1168	Caradon Great Cons. (cop.), Linkinhorne	7	3	....
1024	Carn Galver, Morvah	—	¾	....
5120	Carn Valley, St. Dennis	1	2	....
3000	Carthew Consols (cop. & lead), Wadebridge	4	6	....
2000	Cassandra Anne (lead & cop.), Stoke Clim.	5	5½ 6	....
5000	Cefn Gwyn (silver-lead), Cardigan	1	1	....
500	Comblawn (lead), Callington	8	8	....
1600	Craig-y-Mwyn (lead), Llanrhiadr, Mont.	8½	10½	....
1000	Cwm Daren	1	3	....
2000	Cwm Sebon	—	4	....
2000	Cyfannedd Tawr (lead), Lanegryn	½	½	½
3000	Dairhiew (copper and lead), Brecon	1½	10	....
768	Devon Great Tincroft, North Bovey	½	6	....
1000	Dhurode (copper) Ireland	2	5	....
4000	Dolfrwynog (copper), Merioneth	½	½	....
128	Drift Moor (tin), Sancreed	1	1½	....
1536	Duke of Cornwall (copper), St. Winnon	1	2	....
1024	East Balleswidden (tin), Sancreed	1½	1½	2
2048	East Boringdon Park	½	¾ 1	....
128	East Carn Brea (copper), Redruth	4	3	....
1000	East Trescoll	½	2¾ 3	....
2048	East Wheal Josiah (copper), Tavistock	1½	¾	....
1024	East Wheal Margaret (tin and copper)	½	1½ 1½	....
3000	East Wheal Rashleigh, Lonreath	1*s*	3*s* 6*d*	3*s* 6*d*
1024	Exmoor Eliza (copper), South Molton	4½	3	....
6000	Forest (copper and silver-lead), Devon	1½	1	....

Shares.		Paid.	Last Price.	Present Price.
1024	Freidd Llwydd Mines (lead)	1½	3½	....
2560	Garras (silver-lead), near Truro	5½	4½	....
3750	General Mining Co. for Ireland (copper)	1½	5½	....
2500	Georgia Consols (tin), St. Ive's	2½	7 7½	....
1000	Gelli-rei-vin (silver-lead), Cardiganshire	1	5	....
6500	Great Bryn Consols	1	1	....
1024	Great Sheba Consols (tin and copper)	6	7 6	....
5000	Great Wheal Martha (cop.), Stoke Clims.	—	1	....
6000	Growa Slate Company, Camelford	5	5	....
1500	Hennock (silver-lead), Hennock	2½	2	2½
1024	La Min (Gwinear), tin and copper	3½	6½	....
5000	Lampen Consols (copper), St. Neot	1	1	....
1024	Moditonham & Marrabro' (copper & lead)	1¾	2½ 3	....
—	Mold	—	16½	....
6000	Nap Down (silver-lead), Combmartin	1	1½ 2	....
5000	New Copper Bottom (copper) Bridestowe	1½	1½	....
2000	North Levant (tin and copper), St. Just	1½	3	....
2000	North Tamar Consols (silver-lead & cop.)	—	2½	....
1024	North Wh. Robert (copper), Walkhampton	2	2	....
512	Old Brimpts (tin), Lydford, Ashburton	¾	12	....
2048	Okel Tor (lead)	½	½	....
2048	Plymouth Wh. Yeoland Con. (tin), Plym.	1¾	5	....
2000	Polgear (copper and tin)	1	3	....
1024	Praed Consols (tin), Towednack	1½	17*s*	....
1024	Prince Albert (tin), Perranzabuloe	½	1	....
1024	Sidney Godolphin (copper), Breage	3½	2½	....
10000	Silver Valley & Wh. Brothers (cop. & tin)	1	1½	....
2048	Snowdon (copper), Carnarvonshire	3	3	....
2000	South Carn Brea (copper), Illogan	10	8½	....
1024	South Plain Wood (copper), Ashburton	4	7¾	....
300	South Speed (copper and tin), Uny Lelant	15	30	....
12000	St. Enoder (copper and lead) St. Enoder	1	1½	....
999	St. Minver Consols (silver-lead)	1	5	....
1024	Trannack United Mines (tin and copper)	1½	1¾	....
2048	Trebell Consols (tin and copper), Lanivet	1¼	1½ 1¾	....
1024	Tremar (copper), Liskeard	1½	1½	....
6000	Trenault (lime quarries)	21*s*	21*s*	....
1000	Tyllwyd (lead), Cardiganshire	2	2½	....
4000	Tyn-y-Worglod (slate), near Carnarvon	4	4 5	....
1024	United Mines (copper and tin), Tavistock	10	10	....
1024	West Downs (copper and tin), Whitchurch	2	1½	....
1020	West Nantymwyn	1	1	....
3000	West Shepherd (silver-lead and copper)	2¾	2	....
2048	West Wheal Rose	2	2	....
1024	West Wheal Virgin (tin), Sancreed	1½	2	1½ 2
1024	Weston (lead), Cherbury, Shropshire	¾	½	¾
3072	Wheal Augusta (tin), St. Just	1	1¾ 2	....
5000	Wheal Caradon (copper), St. Cleer	1	1	....
3000	Wheal Dora (tin and copper), St. Cleer	3¾	6	....
1024	Wheal Emily (antimony and lead)	3	5	....
1070	Wheal Enys	1½	—	....
100	Wheal Friendly (tin), St. Agnes	70	65	....
1536	Wheal Gill	1	—	....
1000	Wheal Guskis (tin and copper), St. Hillary	½	1	....
2048	Wheal Hamlyn, near Oakhampton	1	1	....
2048	Wheal Harris (lead), near Tavistock	¾	1	....
6000	Wheal Langford (copper and silver-lead)	½	1½ 2	....
1024	Wheal Mary Ann (copper), Bridestow	—	2	....
1024	Wheal Mary Emma, Tavistock	1½	3½ 3½	3½ 3¾
1024	Wheal May (silver-lead and copper)	2	2½	....
1080	Wheal Oak, near Helston	1½	1½	....
3000	Wheal Penhale (lead and copper)	2¾	4½	....
128	Wheal Pollard (copper), St. Cleer	15¾	10	....
210	Wheal Prospect	4	7	....
5000	Wheal Ruth (tin), Shepstor	2	2	....
512	Wheal Sophia (silver-lead), Lezant	7	7	....
2000	Wheal Tom (tin & copper), Stoke Clims.	5	11½	....
256	Wheal Tremaine (copper), St. Ervan	11	2½	....
4224	Wheal Trewane (silver-lead), St. Kew	1½	2¾	....
3300	Wheal Trescoll (tin), Lanivet, Bodmin	3	1½	....
128	Wheal Violet (tin and cop.), St. Stephens	5	8 20	....
256	Wheal Vlow	2	10	....

	FOREIGN MINES.	Paid.	Present Price.
12000	Annotto Bay Mining Association (copper), Jamaica	1	5½ 6
12000	Liguanea and General Mining Company of Jamaica	1	..

SOUTH DOLCOATH MINING COMPANY.—At a General Meeting of shareholders, held at the Offices, Salvador-house, Bishopsgate-street, on Friday, the 30 May, it was—

Resolved,—That this meeting recommend to the Directors to make a further call of £1 per share immediately.

Resolved,—That the next General Meeting of the shareholders be held on the 29th of July, at One o'clock precisely.

Resolved,—That the accounts now submitted be received, adopted, and entered on the cost and transfer book—errors and ommissions excepted.

Resolved,—That the directors be, and are hereby, authorised to appoint a competent agent, at a salary not exceeding £7 7s. per month, and who shall reside near the mine, and perform the several duties of captain, clerk, and storekeeper.

Resolved,—That for the next two months the expenses may be increased to £150 per month, and that Mr. Johnson be consulted as to the best mode of employing that sum.

Resolved,—That a vote of thanks are due, and are hereby given, to the Chairman and Directors for their management of this mine.

All of the above resolutions were carried unanimously.

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GREAT EXHIBITION.—Professor Ansted has commenced a series of lectures in explanation of the mining processes, mineral products and manufactures, forwarded for exhibition from the various parts of the world. The first included the Ordnance and other maps of Great Britain, together with the maps of other countries, and geological diagrams of portions of the earth's surface. The remainder of the series will be occupied by mineral fuel, iron, various metals, stone, clays, earthy minerals and gems, of which, in our ensuing numbers, we shall give a full report. The lectures are attended by the students of King's College, but strangers are likewise eligible on application to the secretary.

The iron bridge, 230 ft. span, for carrying the Great Northern Railway over the Newark dyke, has been let to the firm of Fox, Henderson, and Co.

SUBMARINE TELEGRAPHS.—George Shepherd, C.E., and C. Button, operative chemist, have just specified their patent for improvements in the means or appliances used in conveying telegraphic intelligence between different places. The invention has relation to submarine electric telegraphs, and comprehend—1. A method of saturating flannel or other suitable fabric with certain chemical compositions (in which white and red lead, gutta percha, cresote, and boiled oil are among the ingredients employed), and using this saturated flannel for wrapping around a strand of gutta percha containing the insulated wires, and finally enveloping the whole with metal or metal wire, either plaited, laid, or coiled around the said strand so wrapped in saturated flannel.—2. Protecting the insulated wires by laying them in the angular spaces formed by the junction of the links of a chain, whether such chain be composed of links round or oval, or of bars of iron bolted or shackled together.—3. A peculiar construction of clamp for attaching the wires to the chains.—4. Attaching the wires to a rope or flexible band, not being a chain.—5. A testing apparatus to be attached to the submerged line of wires for indicating any defect therein.—6. The employment of floating signal buoys, and of immersed buoys attached to the line of wires horizontally between the testing apparatuses, and vertically between the testing apparatuses and the signal buoys.—7. A peculiar form or forms of casing for protecting the wires on their arrival at the sea-shore, the parts of such casing being united by horizontal and vertical flanges and bolts.—8. A method or methods of securing the wires of the electro-marine line on the sea-shore by bolting the casing containing the same either to the rocks or to piles sunk in the shore.

The Lamherooe proprietors have subscribed for upwards of 1300 shares out of the 1742 into which Wheal Benny is now divided, at 6s. per share, and it is expected the list will be completed in a few days.

WOOD GAS.—The Munich Railway terminus has been lighted with wood gas since the 19th March last, a discovery whose introduction into Bavaria is due to Prof. Pettenkoffer. One of the main advantages of wood gas is its quick production, as the same retort will yield in an hour only 180 cubic feet of coal gas, while during the same period it will yield 360 cubic feet of wood gas.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Buddle's West Hartley 14—Carr's Hartley 14—Chester Main 12 9—Davison's West Hartley 14—Holywell 14—Howard's West Hartley Netherton 14—North Percy Hartley 13 6—New Tanfield 12—Tanfield Moor 12 6—Tanfield Moor Butes 12 3—Townley 12 6—West Hartley 14 6—West Wylam 13—Wall's-End Acorn Close 13 3—Bowdon 13 6—Brown 12 3—Elm Park 13—Harton 13 9—Hebburn 13 6—Lawson 13—Northumberland 13—Eden Main 14 3—Lambton Primrose 14 6—Bell 14—Belmont 14—Braddyll 15—Hetton 15 6—Haswell 15 6—Kepier Grange 14 6—Lambton 15—Lumley 13 6—Kelloe 15—South Hartlepool 14 6—West Hartlepool 14 6—Whitworth 12 6—Backhouse 13 9—Cowndon Tees 13 6—Derwentwater Hartley 14—Hartley 13 3 and 13 6—Nixon's Merthyr and Cardiff 21.—Ships at market, 214; sold, 68.

WEDNESDAY.—Buddle's West Hartley 14—Carr's Hartley 14—Chester Main 12 6—Holywell 13 6—Howard's West Hartley Netherton 14—North Percy Hartley 13 6—Ravensworth West Hartley 14—Tanfield Moor 12—Tanfield Moor Bute's 12 3—Townley 12—West Hartley 14—West Wylam 12 6—Wylam 13—Wall's-End Acorn Close 13 3—Brown 12 3—Elm Park 13—Eden 13 3—Eden Main 13 9 to 14—Belmont 14—Braddyll 14 6—Hetton 15—Haswell 15 3—Lambton 14 6—Russell's Hetton 14 6—Richmond 14—Stewart's 15—Caradoc 14—Kelloe 14 9—South Hartlepool 14 3—Whitworth 12 6—Tees 15—Cowpen Hartley 14 3—Hartley 13 to 13 3—Nixon's Merthyr and Cardiff 20 6—Ships at market, 230; sold, 75.

FRIDAY.—Bate's West Hartley 13—Buddle's West Hartley 14—Tanfield Moor Bute's 12—West Wylam 12 6—Wylam 13—Wall's-End Brown 11 9—Lawson 12 6—Eden Main 13 3 and 13 6—Pensher 13 3—Stewart's 14 6—Heugh Hall 13 9—South Hartlepool 13 9 and 14 3—Kelloe 14 9—Whitworth 12 3—Adelaide Tees 14—Tees 15—Birchgrove Graigola 19—Cowpen Hartley 14 3—Hartley 13—Nixon's Merthyr and Cardiff 20 6.—Ships at market, 170; sold, 59.

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